WINZLER & KELLY
CONSULTING ENGINEERS

Ref: 02598-05001-32009

March 10, 2006

Mr. Floyd Wiggins
Wiggins Enterprises, Inc.
1370 Airport Boulevard
Santa Rosa, CA 95403

Re: Annual Groundwater Monitoring and Sampling Report Including Fourth Quarter 2005, Wiggins Property, 3454 Santa Rosa Avenue, Santa Rosa, California, SCDHS-EHD Site # 00001849, NCRWQCB Site # 1TSR007

Dear Mr. Wiggins:

This report presents Winzler & Kelly Consulting Engineers' (Winzler & Kelly's) results of the groundwater monitoring and sampling activities performed on November 21, 2005, at 3454 Santa Rosa Avenue (site), Santa Rosa, California (Figures 1 and 2). Winzler & Kelly performed the work in accordance with the April 18, 2005 letter from the Sonoma County Department of Health Services, Environmental Health Division (SCDHS-EHD), which requested quarterly monitoring and sampling of monitoring wells in addition to sampling of domestic wells located in the vicinity of the site. This report also summarizes and evaluates data collected from the four quarterly groundwater monitoring and sampling events in the 2005 year and the site remedial activities.

FOURTH QUARTER 2005 GROUNDWATER MONITORING AND SAMPLING ACTIVITIES

The Site-Specific Sampling Procedures, provided in Appendix A, describe in detail all of the monitoring and sampling activities that were performed at the site on November 21, 2005. A brief summary of these activities is also provided below.

Personnel Present: Winzler & Kelly's technicians, Pon Xayasaeng and Trevor White, performed the groundwater monitoring and sampling activities.

Dissolved Oxygen: A calibrated dissolved oxygen (DO) meter was used to measure the concentrations of DO in monitoring wells MW-5 through MW-9, MW-11, and MW-12 while the ozone system was operating.

Depth-to-Water: An electronic water level meter was used to measure the depth-to-groundwater (DTW) in each monitoring well while the ozone system was operating. DTW was measured in each well after allowing the groundwater to equilibrate to atmospheric pressure for approximately 30 minutes.

▼ 495 Tesconi Circle, Santa Rosa, CA 95401-4696 ▼
tel 707.523.1010 fax 707.527.8679
www.w-and-k.com
▼

Purging: An electronic 12-volt submersible pump was used to purge each of the monitoring wells until the indicator parameters of pH, conductivity, oxidation-reduction potential (ORP), and temperature had stabilized.

Domestic wells were purged by running the tap closest to the well system's pressure tank until the well pump switched on.

Monitoring Well Sampling: Groundwater samples were collected from monitoring wells MW-5 through MW-12. New disposable bailers were used to collect and transfer the groundwater samples from each monitoring well into the appropriate, laboratory-supplied, certified clean sample containers.

Domestic Well Sampling: Prior to the groundwater sampling from domestic wells, well owners were notified of the sampling event. Groundwater samples were collected from the domestic wells located at 3415 (DW-3415), 3450 (DW-3450), 3455 (DW-3455), and 3521 (DW-3521) Santa Rosa Avenue.

Chemical Analysis: Analytical Sciences Laboratory (Analytical Sciences) of Petaluma, California (a California-certified laboratory) analyzed each of the groundwater samples collected from the monitoring wells for total petroleum hydrocarbons as gasoline (TPH-G), as diesel (TPH-D), and as motor oil (TPH-MO) by EPA Method 8015M, and for benzene, toluene, ethyl benzene, and total xylenes (BTEX), acetone, and oxygenated fuel additives by EPA Method 8260B.

As part of the ozone remediation monitoring, specific groundwater samples were analyzed for hexavalent chromium (Cr^{+6}) by EPA Method 7196A, for bromate (BrO_3^{-1}) and bromide (Br^{-1}) by EPA Method 300 (IC), and for molybdenum (Mo), selenium (Se), and vanadium (V) by EPA Method 6010B.

GROUNDWATER MONITORING AND SAMPLING RESULTS – NOVEMBER 21, 2005

The groundwater elevation data and the direction and gradient of groundwater flow at the site are summarized in Tables 1 and 2, respectively. A groundwater elevation map is provided as Figure 3. When the groundwater is aerated, the density of groundwater decreases from 1.0 g/cm^3 to less than 1.0 g/cm^3; therefore, the groundwater flow direction cannot be calculated. The groundwater elevation anomaly is not mounding, but is a result of less dense groundwater produced by intermitted ozone and air injections. Historically, the groundwater flow is towards the southeast.

During purging activities, the parameters of pH, conductivity, temperature, and ORP were monitored in the groundwater extracted from the wells. A summary of these indicator parameters is provided in Table 3. In addition to monitoring the indicator parameters, MW-10 was monitored for the presence of free product. Consistent with the previous monitoring and sampling event, free product was not detected during purging and sampling of MW-10. A hydrocarbon adsorbent-hydrophobic sock remains in MW-10. A measurable quantity of free product was not detected in any of the other monitoring wells that were sampled.

Laboratory analysis of the groundwater samples collected from monitoring wells MW-6 through MW-9, MW-11, MW-12, and the domestic wells did not quantify any petroleum-related constituents above the laboratory's reportable detection limits (RDLs). Only the groundwater samples collected from monitoring wells MW-5 and MW-10 contained petroleum-related constituents above the laboratory's RDLs.

The analytical results of the groundwater samples are summarized in Table 4. Figure 4 depicts the concentrations of TPH-G, benzene, and methyl-tert butyl ether (MTBE) in the groundwater samples collected from the monitoring wells on November 21, 2005.

Additionally, groundwater samples collected from the monitoring wells MW-5 and MW-8 through MW-12 were analyzed for ozone oxidation/degradation by-product related constituents (Cr^{+6}, BrO_3^{-1}, Mo, Se, and V). Analytical results did not quantify any of these constituents above the laboratory's RDLs. Table 5 presents the analytical results of the ozone sparging parameters.

Acetone was not detected in any of the groundwater samples. Bromide was detected in the specific wells sampled (MW-5 and MW-8 through MW-12). As mentioned in the Winzler & Kelly's November 9, 2005 *Quarterly Groundwater Monitoring and Sampling Report – Third Quarter 2005*, bromide is commonly found in groundwater and is not a by-product of the ozonation process. In addition, ozone is not expected to begin significant oxidation of bromide until oxidation of petroleum hydrocarbons is substantially completed. The oxidation of bromide is said to be insignificant as long as oxidizable TPH-G concentrations are above 500 µg/L (Source: Joan Brackin of T.A.O. Technologies, Inc.). Analytical results of TPH-G concentrations in MW-5 during November 10, 2005, have decreased to 690 µg/L; therefore, on December 15, 2005, the injection of ozone in sparge point SP-2 has been deactivated and sparge point SP-7 has been activated. The table below shows operating dates for each sparge point.

Sparge Point ID	Operating Dates	Sparge Point ID	Operating Dates
SP-1	6/7/05-Present	SP-7	12/15/05-Present
SP-2	6/7/05-12/15/05	SP-8	6/7/05-Present
SP-3	6/7/05-Present	SP-9	Never Operated
SP-4	6/7/05-Present	SP-10	6/7/05-Present
SP-5	6/7/05-Present	SP-11	Never Operated
SP-6	6/7/05-Present	SP-12	Never Operated

The laboratory QA/QC included the use of method blanks to exclude false-positive analyses and the use of laboratory control samples to evaluate the percentage recovery of known analyte spikes. The recovery percentages for each of the sample analytes were within acceptable ranges. The complete laboratory reports, QA/QC data, and the chain-of-custody form are included in Appendix B.

GEOTRACKER DATA ENTRY

As required by Assembly Bill AB2886, Winzler & Kelly has submitted the system installation and start-up report, the third quarter 2005 monitoring and sampling report, and the groundwater well measurement file for the November 21, 2005 monitoring event to the GeoTracker database. Upload verification forms are included in Appendix C. Winzler & Kelly will submit the analytical EDF report to the GeoTracker database upon receipt and this report upon completion.

ANNUAL SUMMARY

During the 2005 year, the groundwater flow direction at the site was generally towards the southwest.

Consistent with historical sampling results, constituents of concern (COCs) detected throughout the 2005 year were in groundwater samples collected from MW-5 and MW-10. Graphs were prepared to depict the concentrations of TPH-G verses groundwater elevations over time in wells MW-5 and MW-10 (Graphs 1 and 2). The graphs show historic TPH-G data and TPH-G data post-installation of the ozone system. With two quarters of analytical data post installation of the ozone system, TPH-G and BTEX concentrations show a decreasing trend in MW-5 and MW-10. Additional quarters of monitoring and analysis will verify the decreasing trend seen by the current data. Monitoring of COCs will continue in the next quarters.

Free product was historically detected in MW-10. Since the first quarter 2005 sampling event on March 2, 2005, hydrocarbon adsorbent-hydrophobic socks were installed to remove the free product. A total of 6 ounces of free product has been removed, thus far. Furthermore, free product was not detected during the monitoring and sampling events for the second, third, or fourth quarters of 2005. Currently, a new sock has been installed in MW-10.

REMEDIAL MEASURES SUMMARY

A brief summary of the remedial activities in the 2005 year is provided below.

- In May 2005, installed 12 ozone sparge points (SP-1 through SP-12);
- On June 2 and 3, 2005, the ozone system installation and testing was performed;
- On June 7, 2005, the ozone system start-up, balancing, and operation and maintenance were performed with a representative from the SCDHS-EHD present. Ozone was initially set to inject in sparge points SP-1 through SP-6, SP-8, and SP-10 at a total rate of 0.5 pounds per day (lbs/day) at the site;
- Weekly groundwater monitoring and sampling was performed on June 14, 23, 30, and July 8, 2005, as required by the SCDHS-EHD; and

As of December 15, 2005, the ozone system has been operating as designed for 192 days, which is 97% operational since June 2, 2005. A summary of the system operational hours is provided in Appendix D.

Sparge points SP-1, SP-3 through SP-8, and SP-10 are currently in operation. The total ozone injection rate was gradually increased by increments of 0.3 lbs/day since the start-up on June 7, 2005. The current total ozone injection rate at the site was increased to approximately 1.4 lbs/day on November 4, 2005. Therefore, each sparge point is receiving approximately 0.18 pounds of ozone per day. A summary of the approximate mass of ozone injected is provided below.

Oxidant	Total Ozone Injected at the Site	Total Ozone Injected per Sparge Point	Operation Dates
Ozone	269 pounds	34 pounds	6/7/05 through 12/15/05*

* Note: Ozone system was off from 7/6/05 to 7/8/05 due to high pressure alarm.

RECOMMENDATIONS

Winzler & Kelly recommends the continuation of quarterly groundwater monitoring and sampling at the site. The first quarter 2006 groundwater monitoring event was performed in February 2006. The first quarter 2006 quarterly groundwater monitoring and sampling report will follow this report and include the ozone system updates. In addition, the COCs trends will be evaluated to determine the overall effectiveness of the ozone system.

Should you have any questions or comments regarding this project, please contact David Vossler, Project Manager, at (707) 523-1010.

Sincerely,
WINZLER & KELLY

P. Xayasaeng

Pon Xayasaeng
Environmental Engineer

PROFESSIONAL GEOLOGIST
KENT O'BRIEN
No. 2132
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Kent O'Brien, PG, CEG
Senior Project Geologist

sc

Attachments

Figures:

- Figure 1 – Location Map
- Figure 2 – Site Map
- Figure 3 – Groundwater Elevation Map
- Figure 4 – Petroleum Hydrocarbons in Groundwater

Tables:

- Table 1 – Water Level Data
- Table 2 – Groundwater Gradient and Flow Direction
- Table 3 – Indicator Parameters
- Table 4 – Analytical Results of Groundwater Samples
- Table 5 – Additional Groundwater Analytical Results

Graphs:

- Graph 1 – TPH-G Concentrations vs Groundwater Elevations Over Time in MW-5
- Graph 2 – TPH-G Concentrations vs Groundwater Elevations Over Time in MW-10

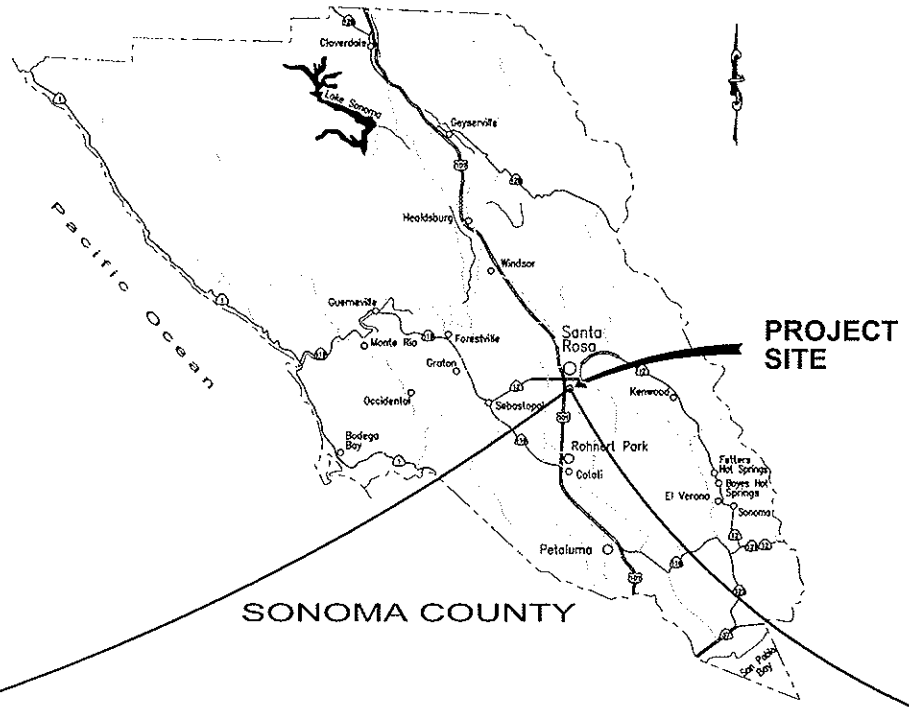
Appendices:

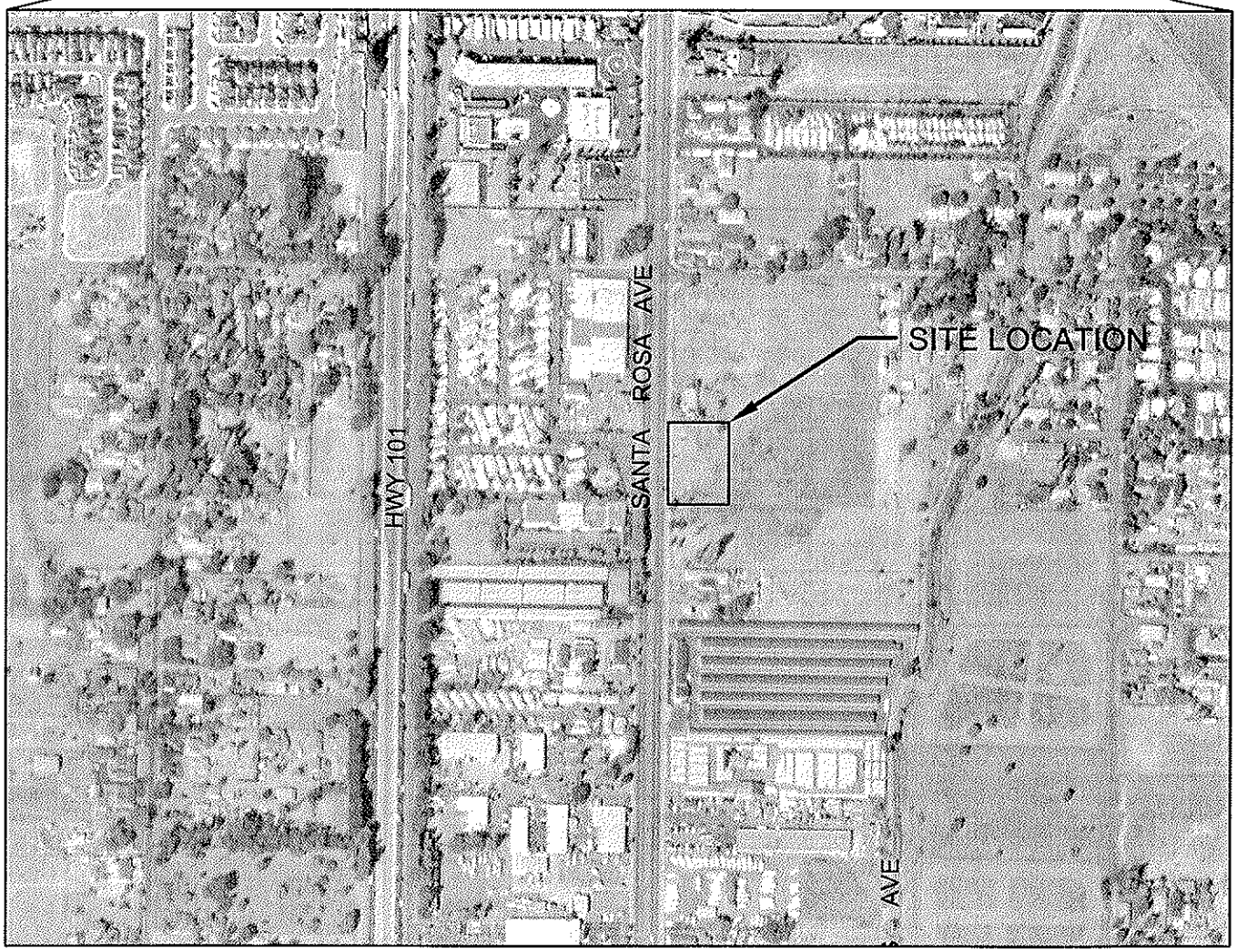
- Appendix A – Site-Specific Sampling Procedures
- Appendix B – Analytical Laboratory Report
- Appendix C – GeoTracker Upload Verifications
- Appendix D – Operation and Maintenance Data

c: Mr. Cliff Ives, Sonoma County Department of Health Services, Environmental Health Division, 475 Aviation Blvd, Suite 220, Santa Rosa, CA 95403

Figures

J:\04\259801\CAD\Location Map.dwg Dec 07, 2005 -- 12:28pm

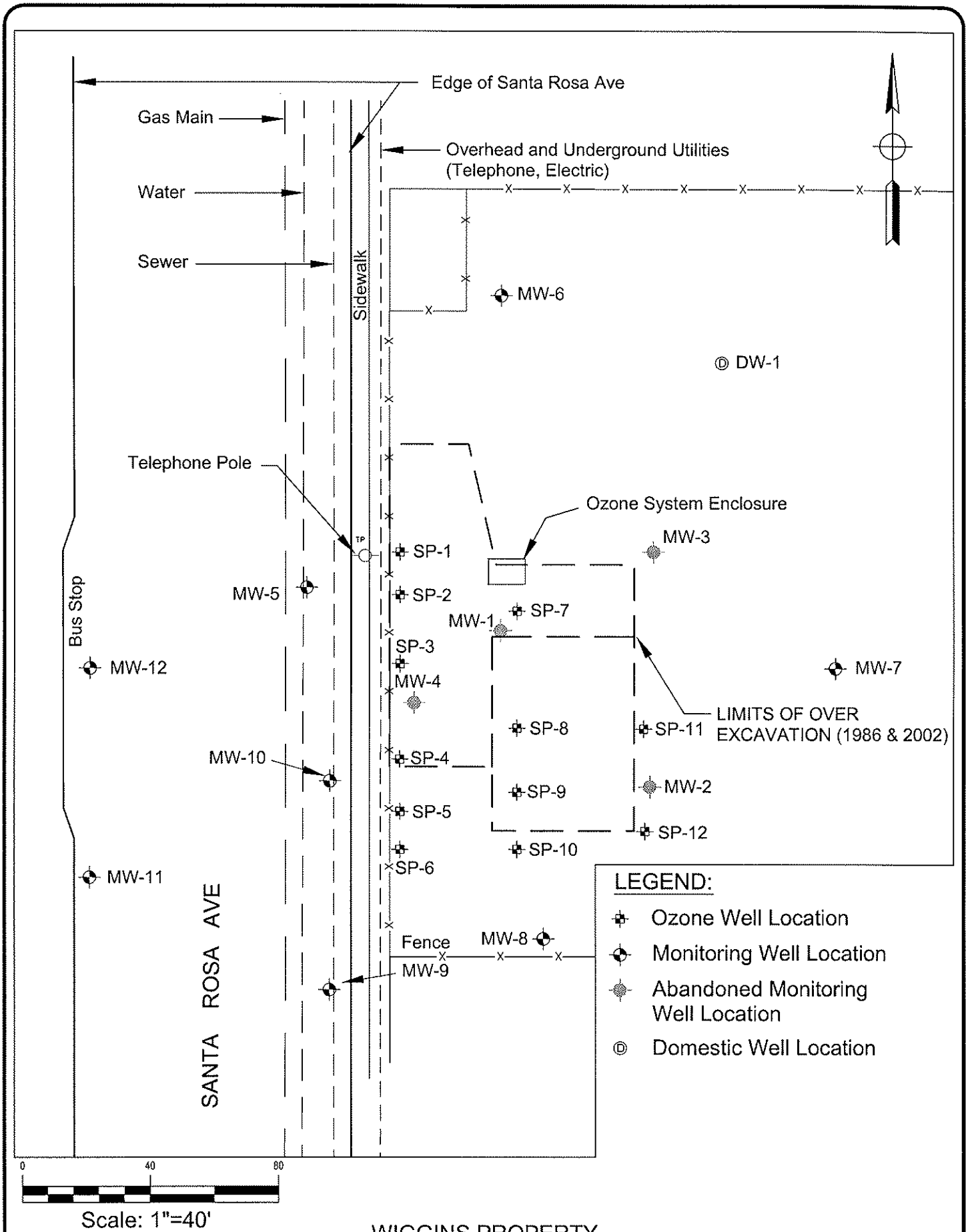




WIGGINS PROPERTY
3454 Santa Rosa Ave
Santa Rosa, California

LOCATION MAP
FIGURE 1

WINZLER & KELLY
CONSULTING ENGINEERS

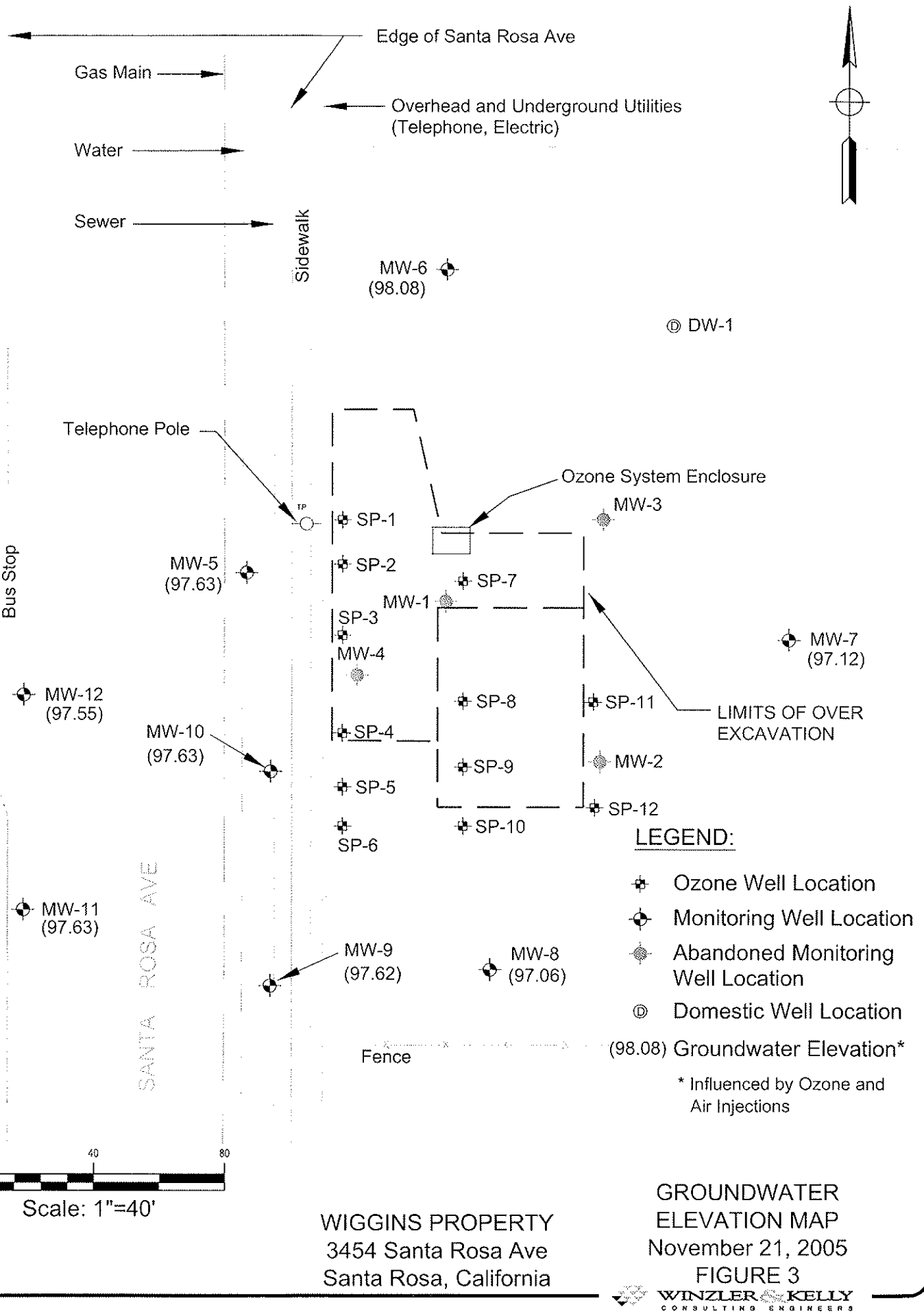


J:\04\259801\CAD\Site Map.dwg Dec 07, 2005 - 10:35am

WIGGINS PROPERTY
3454 Santa Rosa Ave
Santa Rosa, California

SITE MAP
FIGURE 2

WINZLER & KELLY
CONSULTING ENGINEERS

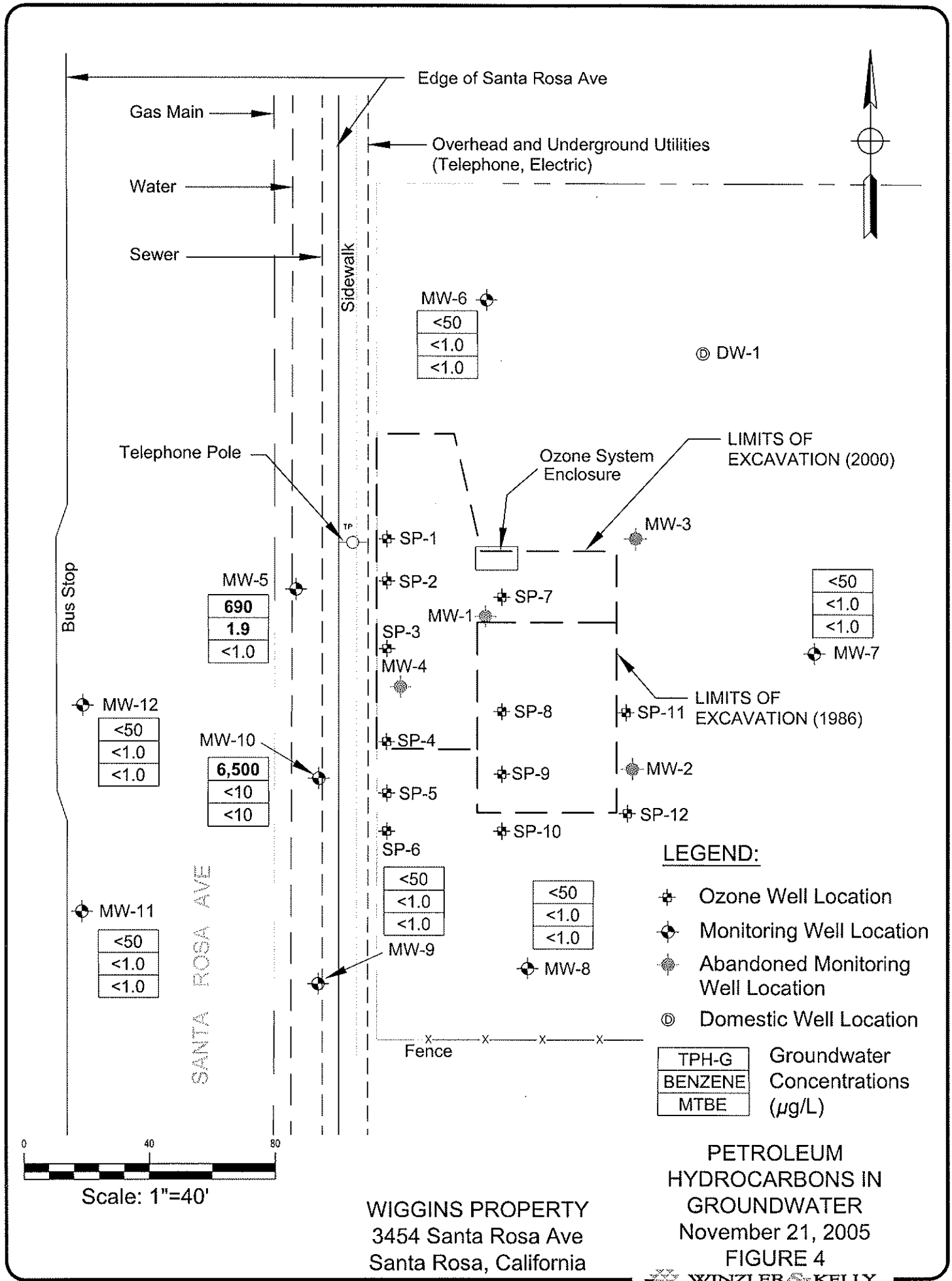


J:\04\259801\CAD\GW-Elev.dwg Mar 08, 2006 - 3:44pm

WIGGINS PROPERTY
3454 Santa Rosa Ave
Santa Rosa, California

GROUNDWATER
ELEVATION MAP
November 21, 2005
FIGURE 3

WINZLER & KELLY
CONSULTING ENGINEERS



J:\04\259801\CAD\GW-Box.dwg Dec 14, 2005 - 11:47am

WIGGINS PROPERTY
3454 Santa Rosa Ave
Santa Rosa, California

PETROLEUM HYDROCARBONS IN GROUNDWATER
November 21, 2005
FIGURE 4

WINZLER & KELLY
CONSULTING ENGINEERS

Tables

Table 1. Water Level Data

Wiggins Property

3454 Santa Rosa Avenue, Santa Rosa, CA

Well ID	Date	Groundwater Elevation	Depth-to-Water	Top of Casing	Free Product Thickness	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval
		MSL	feet bgs		feet			
MW-1 THROUGH MW-4 HAVE BEEN ABANDONED								
MW-5	02/02-12/18/00	Inaccessible		105.89	---	5'-20'	4'-21.5'	0'-4'
	03/08/01*	101.28	4.61		---			
	04/05/01*	99.28	6.61		---			
	07/06/01*	94.89	11.00		---			
	10/08/01*	91.92	13.97		---			
	1/15/02*	101.28	4.61		---			
	04/08/02*	99.78	6.11		---			
	08/15/02*	94.59	11.30		---			
	11/26/02*	95.23	10.66		---			
	02/26/03*	100.91	4.98		---			
	05/20/03*	100.73	5.16		---			
	09/24/03*	95.22	10.67		---			
	04/29/04	99.64	6.25		---[a]			
	07/29/04	96.64	9.25		---[a]			
	03/02/05	102.34	3.55		---[a]			
	05/12/05	101.88	4.01		---[a]			
	8/9/05†	98.63	7.26		---[a]			
	11/21/05	97.63	8.26		---[a]			
MW-6	02/02/00*	101.29	5.19	106.48	---	5'-20'	4'-21.5'	0'-4'
	05/04/00*	101.47	5.01		---			
	08/03/00*	96.97	9.51		---			
	12/18/00*	96.17	10.31		---			
	03/08/01*	102.17	4.31		---			
	04/05/01*	101.49	4.99		---			
	07/06/01*	97.29	9.19		---			
	10/08/01*	94.22	12.26		---			
	01/15/02*	103.52	2.96		---			
	04/08/02*	101.65	4.83		---			
	08/15/02*	96.61	9.87		---			
	11/26/02*	96.04	10.44		---			
	02/26/03*	102.76	3.72		---			
	05/20/03*	101.90	4.58		---			
	09/24/03*	96.87	9.61		---			
	04/29/04	100.72	5.76		---[a]			
	07/29/04	97.57	8.91		---[a]			
	03/02/05	105.03	1.45		---[a]			
	05/12/05	103.27	3.21		---[a]			
	8/9/05†	99.68	6.80		---[a]			
	11/21/05	98.08	8.40		---[a]			
MW-7	02/02/00*	97.37	8.91	106.28	---	5'-20'	6'-21.0'	0'-4'
	05/04/00*	100.99	5.29		---			
	08/03/00*	96.35	9.93		---			
	04/05/01*	100.92	5.36		---			
	07/06/01*	96.68	9.60		---			
	10/08/01*	93.98	12.30		---			
	01/15/02*	103.63	2.65		---			
	04/08/02*	101.87	4.41		---			
	08/15/02*	96.19	10.09		---			
	11/26/02*	94.83	11.45		---			
	02/26/03*	103.40	2.88		---			
	05/20/03*	102.06	4.22		---			
	09/24/03*	96.28	10.00		---			
	04/29/04	100.55	5.73		---[a]			
	07/29/04	97.05	9.23		---[a]			
	03/02/05	104.78	1.50		---[a]			
	05/12/05	103.61	2.67		---[a]			
	8/9/05†	99.09	7.19		---[a]			
	11/21/05	97.12	9.16		---[a]			

Table 1. Water Level Data

Wiggins Property
3454 Santa Rosa Avenue, Santa Rosa, CA

Well ID	Date	Groundwater Elevation	Depth-to-Water	Top of Casing	Free Product Thickness	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval
		MSL	feet bgs		feet			
MW-8	02/02/00*	100.29	6.05	106.34	---	5'-20'	4'-21.0'	0'-4'
	05/04/00*	99.69	6.65		---			
	08/03/00*	94.96	11.38		---			
	12/18/00*	95.38	10.96		---			
	03/08/01*	102.50	3.84		---			
	04/05/01*	99.60	6.74		---			
	07/06/01*	94.95	11.39		---			
	10/08/01*	91.96	14.38		---			
	01/15/02*	102.56	3.78		---			
	04/08/02*	100.39	5.95		---			
	08/15/02*	94.61	11.73		---			
	11/26/02*	95.07	11.27		---			
	02/26/03*	102.78	3.56		---			
	05/20/03*	100.93	5.41		---			
	09/24/03*	95.19	11.15		---			
	03/02/05	104.10	2.24		---[a]			
	05/12/05	102.78	3.56		---[a]			
	8/9/05†	98.55	7.79		---[a]			
	11/21/05	97.06	9.28		---[a]			
MW-9	08/15/02*	94.54	11.20	105.74	---	5'-20'	4'-20'	0'-4'
	11/26/02*	95.10	10.64		---			
	02/26/03*	101.03	4.71		---			
	05/20/03*	100.69	5.05		---			
	09/24/03*	95.13	10.61		---			
	04/29/04	99.67	6.07		---[a]			
	07/29/04	96.57	9.17		---[a]			
	03/02/05	102.18	3.56		---[a]			
	05/12/05	101.69	4.05		---[a]			
	8/9/05†	98.57	7.17		---[a]			
	11/21/05	97.62	8.12		---[a]			
MW-10	08/15/02*	94.56	11.30	105.86	---	5'-20'	4'-20'	0'-4'
	11/26/02*	95.16	10.70		---			
	2/26/03*	100.89	4.97		---			
	5/20/03*	98.40	7.46		---			
	9/24/03*	95.19	10.67		---			
	04/29/04	---	---[b]		0.05			
	07/29/04	---	---[b]		0.15			
	03/02/05	---	---[b]		0.02			
	5/12/2005[c]	101.92	3.94		<0.02			
	8/9/05†[c]	98.55	7.31		---[a]			
	11/21/05	97.63	8.23		---[a]			
MW-11	08/15/02*	94.53	11.17	105.70	---	5'-20'	4'-20'	0'-4'
	11/26/02*	95.13	10.57		---			
	02/26/03*	100.85	4.85		---			
	05/20/03*	100.66	5.04		---			
	09/24/03*	95.14	10.56		---			
	04/29/04	99.59	6.11		---[a]			
	07/29/04	96.60	9.10		---[a]			
	03/02/05	102.21	3.49		---[a]			
	05/12/05	101.76	3.94		---[a]			
	8/9/05†	98.56	7.14		---[a]			
	11/21/05	97.63	8.07		---[a]			

Table 1. Water Level Data

Wiggins Property
3454 Santa Rosa Avenue, Santa Rosa, CA

Well ID	Date	Groundwater Elevation	Depth-to-Water	Top of Casing	Free Product Thickness	Screen Interval	Sand Pack Interval	Bentonite/ Grout Interval
		MSL	feet bgs		feet			
MW-12	08/15/02*	94.55	11.28	105.83	---	5'-20'	4'-20'	0'-4'
	11/26/02*	95.17	10.66		---			
	02/26/03*	100.87	4.96		---			
	05/20/03*	100.65	5.18		---			
	09/24/03*	95.15	10.68		---			
	04/29/04	99.57	6.26		---[a]			
	07/29/04	96.59	9.24		---[a]			
	03/02/05	102.21	3.62		---[a]			
	05/12/05	101.78	4.05		---[a]			
	8/9/05†	98.49	7.34		---[a]			
	11/21/05	97.55	8.28		---[a]			

Abbreviations:

MSL = Mean Sea Level
bgs = Below Ground Surface
--- = Not Measured
* = Historical data collected other consultants, not verified by Winzler & Kelly
† = The ozone system was started-up on June 7, 2005
a = Free Product Not Present
b = Free Product Present
c = Depth-to-water measured using free product interface meter

Table 2. Groundwater Gradient and Flow Direction

Wiggins Property
3454 Santa Rosa Ave, Santa Rosa, CA

Date	Groundwater Gradient (ft/ft)	Flow Direction	Wells Used for Calculating Gradient and Flow Direction
04/29/04	0.01	Southwest	MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12
07/29/04	0.01	Southwest	MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12
03/02/05	0.02	Southwest	MW-5, MW-6, MW-7, MW-8, MW-9, MW-11, MW-12
05/12/05	0.01	Southwest	MW-5, MW-6, MW-7, MW-8, MW-9, MW-11, MW-12
08/09/05	0.01	Southwest	MW-5, MW-6, MW-7, MW-8, MW-9, MW-10, MW-11, MW-12
11/21/05	---*	---*	---*

Notes:

*** =** Potentialmetric surface is influenced by ozone and air injections therefore groundwater gradient and flow direction can not be determine.

Table 3. Indicator Parameters

Wiggins Property

3454 Santa Rosa Avenue, Santa Rosa, CA

Well ID	Sample Date	pH	Temperature (°F)	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)
MW-1 THROUGH MW-4 HAVE BEEN ABANDONED						
MW-5	04/29/04	6.63	67.28	1317	-38	NM
	07/29/04	6.52	68.90	1265	-101	NM
	03/02/05	6.65	67.64	1416	-14	0.66
	05/12/05	6.65	66.20	1060	144	0.25
	08/09/05†	6.65	69.62	1336	-74	0.34
	11/21/05	7.55	70.70	1330	180	1.05
MW-6	04/29/04	6.42	67.82	778	180	NM
	07/29/04	--	--	--	--	NM
	03/02/05	--	--	--	--	0.70
	05/12/05	--	--	--	--	0.69
	08/09/05†	--	--	--	--	0.31
	11/21/05	6.42	70.52	766	190	1.06
MW-7	04/29/04	6.67	61.70	780	215	NM
	07/29/04	--	--	--	--	3.45
	05/12/05	--	--	--	--	1.37
	08/09/05†	--	--	--	--	0.97
	11/21/05	7.03	63.86	1007	182	1.53
MW-8	04/29/04	6.36	59.72	332	-51	NM
	07/29/04	--	--	--	--	NM
	03/02/05	--	--	--	--	3.05
	05/12/05	6.52	59.36	345	-34	0.22
	08/09/05†	6.59	61.70	387	-76	0.57
	11/21/05	7.01	62.78	431	-52	1.30
MW-9	04/29/04	6.81	66.20	443	186	NM
	07/29/04	6.76	66.70	721	199	NM
	03/02/05	6.76	65.30	939	285	1.69
	05/12/05	6.63	68.00	1466	-53	2.41
	08/09/05†	7.07	68.36	704	82	1.01
	11/21/05	7.23	68.18	605	219	1.99
MW-10	04/29/04	--	--	--	--	NM
	07/29/04	--	--	--	--	NM
	03/02/05	--	--	--	--	NM
	05/12/05	6.59	67.64	973	-82	NM
	08/09/05†	6.81	70.88	894	-42	17.20
	11/21/05	7.29	71.42	947	210	8.30
MW-11	04/29/04	6.84	67.46	867	155	NM
	07/29/04	6.74	67.46	759	194	NM
	03/02/05	6.81	67.46	862	233	0.34
	05/12/05	6.83	67.28	804	117	0.43
	08/09/05†	7.03	68.54	790	50	0.52
	11/21/05	7.14	69.26	763	203	1.34

Table 3. Indicator Parameters

Wiggins Property

3454 Santa Rosa Avenue, Santa Rosa, CA

Well ID	Sample Date	pH	Temperature (^{o}F)	Conductivity (uS/cm)	ORP (mV)	DO (mg/L)
MW-12	04/29/04	6.98	69.62	849	142	NM
	07/29/04	6.85	68.00	881	188	NM
	03/02/05	6.90	68.00	817	229	0.76
	05/12/05	6.95	67.46	772	106	0.35
	08/09/05†	7.14	68.72	809	37	0.35
	11/21/05	7.13	69.80	846	147	1.13

Abbreviations:

^{o}F = degrees Fahrenheit
uS/cm = microSiemens per centimeter
ORP = Oxidation Reduction Potential
mV = milliVolts
DO = Dissolved Oxygen
mg/L = milligrams per liter
NM = Not Measured
-- = Not Sampled
† = The ozone system was started-up on June 7, 2005

Table 4. Analytical Results of Groundwater Samples

Wiggins Property

3454 Santa Rosa Avenue, Santa Rosa, CA

Well ID	Date Sampled	TPH-G	TPH-D	TPH-MO	B	T	E	X	EDB	EDC	TBA	MTBE	DIPE	ETBE	TAME	TOG
		ug/L														mg/L
MW-1 through MW-4 have been abandoned.																
MW-5	02/02/00-12/18/00* Inaccessible; well box full of sand and mud.															
	03/08/01* Unable to collect sample; PVC casing was clogged.															
	04/05/01*	**3,300**	**170**	**290**	**550**	**11**	**56**	**30**	ND	ND	**21**	<0.5	ND	ND	ND	ND
	07/06/01*	**6,800**	**330**	**250**	**1,700**	**37**	**130**	**71**	ND	**1.8**	**53**	<0.5	ND	ND	ND	<5.0
	10/08/01*	**6,000**	**550**	**270**	**1,400**	**8.4**	**88**	**63**	<10	<10	**640**	<10	ND	ND	ND	<5.0
	01/15/02*	**7,800**	**350**	**420**	**2,000**	**62**	**170**	**120**	<5.0	<5.0	<100	<5.0	<5.0	<5.0	<5.0	<5.0
	04/08/02*	**1,800**	**250** [a]	<200	**1,300**	**4.4**	**99**	**6.4**	ND	**4.6**	ND	<1.0	**1.5**	ND	ND	<1.0
	08/15/02*	**2,100**	**210****	<100	**68**	**0.42**	**19**	**6.2**	ND	**3.4**	**68**	<0.5	**0.88**	ND	ND	<5.0
	11/26/02*	**2,200**	**150****	<100	**13**	**0.80**	**25**	**13**	ND	**2.5**	**71**	**3.3**	ND	ND	ND	<5.0
	02/26/03*	**1,100**	**99** [a]	<200	**4.5**	<1.0	**29**	<1.0	<1.0	**3.0**	**84**	<1.0	**1.2**	<1.0	<1.0	<1.0
	05/20/03*	**660**	**120** [a]	<200	<1.0	<1.0	**2.1**	<1.0	<1.0	**2.9**	<25	<1.0	**1.3**	<1.0	<1.0	<1.0
	09/24/03*	**1,300**	**180** [a]	<200	**15.0**	<1.0	**20**	**11**	<1.0	**2.5**	<25	<1.0	<1.0	<1.0	<1.0	**2.0**
	04/29/04	**870**	**57** [a]	<200	<1.0	<1.0	<1.0	<1.0	<1.0	**1.7**	<25	<1.0	<1.0	<1.0	<1.0	---
	07/29/04	**1,100**	**95** [a]	<200	**4.8**	<1.0	**3.7**	**1.6**	<1.0	**1.8**	<25	<1.0	<1.0	<1.0	<1.0	---
	03/02/05	**750**	<50	<200	**8.3**	**1.7**	**6.6**	**26**	<1.0	**1.2**	**46**	<1.0	<1.0	<1.0	<1.0	<1.0 [b]
	05/12/05	**320**	**54**	<200	<1.0 [c]	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	08/09/05†	**960**	**86**	<200	**3.7**	<1.0	**1.5**	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	11/21/05 [f]	**690**	**71** [a]	<200	**1.9**	<1.0	<1.0	<1.0	<1.0	<1.0	**34**	<1.0	<1.0	<1.0	<1.0	<0.5
MW-6	**Analytical results from 3/8/00 till 8/3/00 did not quantify petroleum related constituents above the laboratory's reportable detection limits.***															
	12/18/00*	ND	**120**	---	ND	ND	ND	ND	---	---	ND	ND	ND	ND	ND	---
	03/0801*	ND	ND	---	ND	ND	ND	ND	---	---	ND	ND	ND	ND	ND	---
	07/06/01*	<50	<50	<100	<0.3	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<5.0
	10/08/01*	<50	<50	<100	<0.3	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<5.0
	01/15/02*	<50	<50	<100	<0.3	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<5.0
	04/08/02*	<50	<50	<200	<0.5	<0.5	<0.5	<1.5	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	08/15/02*	<50	<50	<100	<0.3	<0.3	<0.5	**0.80**	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<5.0
	11/26/02*	<50	<50	<100	<0.3	<0.3	<0.5	**0.98**	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<5.0
	02/26/03*	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	05/20/03*	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	09/24/03*	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	04/29/04	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	11/21/05†	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
MW-7	02/02/00*	ND	ND	---	ND	ND	ND	ND	---	---	ND	ND	ND	ND	ND	---
	05/04/00*	ND	ND	---	ND	ND	ND	ND	---	---	ND	**8.8**	ND	ND	ND	---
	08/03/00*	ND	ND	---	ND	ND	ND	ND	---	---	ND	**2.0**	ND	ND	ND	---
	12/18/00-03/08/01* Inaccessible; well covered with standing water.															
	04/05/01*	ND	ND	ND	**0.88**	**0.41**	**1.5**	**4.0**	ND	ND	ND	**4.4**	ND	ND	ND	ND
	07/06/01*	<50	<50	<100	<0.3	<0.3	<0.5	<0.5	<0.5	<0.5	<10	**1.9**	<0.5	<0.5	<0.5	<5.0
	10/08/01*	<50	<50	<100	<0.3	<0.3	<0.5	<0.5	<0.5	<0.5	<10	**1.1**	<0.5	<0.5	<0.5	<5.0
	01/15/02*	<50	<50	<100	<0.3	<0.3	<0.5	<0.5	<0.5	<0.5	<10	**2.7**	<0.5	<0.5	<0.5	<5.0
	Analytical results from 4/8/02 till 9/24/03 did not quantify petroleum related constituents above the laboratory's reportable detection limits.*															
	04/29/04	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	11/21/05†	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
MW-8	**Analytical results from 02/02/00 till 05/04/00 did not quantify petroleum related constituents above the laboratory's reportable detection limits.***															
	08/03/00*	**50**	ND	---	ND	ND	ND	ND	---	---	ND	ND	ND	ND	ND	---
	12/18/00*	<50	ND	---	ND	ND	ND	ND	---	---	ND	ND	ND	ND	ND	---
	03/08/01*	<50	ND	---	ND	ND	ND	ND	---	---	ND	ND	ND	ND	ND	---
	07/06/01*	<50	<50	<100	<0.3	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<5.0
	10/08/01*	<50	**71**	<100	<0.3	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<5.0
	01/15/02*	<50	<50	<100	<0.3	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<5.0
	04/08/02*	<50	<50	<200	<0.5	<0.5	<0.5	<1.5	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	08/15/02*	<50	**97**	<100	<0.3	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<5.0
	11/26/02*	<50	**54**	<100	<0.3	<0.3	**0.83**	**1.7**	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	<5.0
	02/26/03*	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	05/20/03*	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	09/24/03*	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	04/29/04	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	07/29/04	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	03/02/05	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
	05/12/05	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	08/09/05†	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	11/21/05	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	<0.5

Table 4. Analytical Results of Groundwater Samples

Wiggins Property

3454 Santa Rosa Avenue, Santa Rosa, CA

Well ID	Date Sampled	TPH-G	TPH-D	TPH-MO	B	T	E	X	EDB	EDC	TBA	MTBE	DIPE	ETBE	TAME	TOG
		ug/L														mg/L
MW-9	08/15/02*	<50	**84**	<100	<0.3	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	---
	11/26/02*	<50	<50	<100	<0.3	<0.3	<0.5	<0.5	---	---	<10	<0.5	<0.5	<0.5	<0.5	---
	02/26/03*	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	05/20/03*	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	09/24/03*	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	04/29/04	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	07/29/04	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	03/02/05	<50	<50	<200	<1.0	**5.5**	**2.0**	**9.8**	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	05/12/05	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	08/09/05†	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	11/21/05	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	<0.5
MW-10	08/15/02*	**32,000**	**43,000**	<1,200	**330**	**460**	**1,700**	**4,900**	<50	<50	<1,000	<50	<50	<50	<50	---
	11/26/02*	**31,000**	**19,000**	**230** [d]	**190**	**220**	**1,300**	**3,400**	---	---	<100	<5.0	<5.0	<5.0	<5.0	---
	02/26/03*	**20,000**	**19,000** [d]	<2,000	**110**	**140**	**640**	**1,370**	---	---	<250	<10	<10	<10	<10	---
	05/20/03*	**17,000**	<50	<200	**98**	**100**	**670**	**1,450**	---	---	<250	<10	<10	<10	<10	---
	09/24/03*	**22,000**	**free product**	<20,000	**87**	**99**	**680**	**1,560**	---	---	<250	<10	<10	<10	<10	---
	04/29/04	Approximately 0.05 feet of free product present.														
	07/29/04	Approximately 0.15 feet of free product present.														
	03/02/05	Approximately 0.02 feet of free product present.														
	05/12/05	**8,800**	**8,000** [d]	<200	**55**	**17**	**310**	**426**	---	---	<250	<10	<10	<10	<10	---
	08/09/05†	**43,000**	**10,000**	<1,000	**48**	**37**	**260**	**573**	---	---	<500	<20	<20	<20	<20	**150**
	11/21/05	**6,500**	**29,000**	<2,000	<10	<10	**71**	**236**	---	---	<250	<10	<10	<10	<10	**42**
MW-11	08/15/02*	<50	**120****	<110	**0.42**	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	---
	11/26/02*	<50	<50	<100	<0.3	<0.3	<0.5	<0.5	---	---	<10	<0.5	<0.5	<0.5	<0.5	---
	02/26/03*	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	05/20/03*	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	09/24/03*	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	04/29/04	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	07/29/04	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	03/02/05	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	05/12/05	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	08/09/05†	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	11/21/05	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	<0.5
MW-12	08/15/02*	<50	<50	<100	<0.3	<0.3	<0.5	<0.5	<0.5	<0.5	<10	<0.5	<0.5	<0.5	<0.5	---
	11/26/02*	<50	<50	<100	<0.3	<0.3	<0.5	<0.5	---	---	<10	<0.5	<0.5	<0.5	<0.5	---
	02/26/03*	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	05/20/03*	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	09/24/03*	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	04/29/04	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	07/29/04	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	03/02/05	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	05/12/05	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	08/09/05†	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	<1.0
	11/21/05	<50	<50	<200	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	<0.5
DW-3415	04/29/04	<50	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	07/29/04	<50	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	03/02/05	<50	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	05/12/05	<50	---	---	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	08/09/05†	<50	---	---	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	11/21/05	<50	---	---	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
DW-3455	04/29/04	<50	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	07/29/04	<50	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	03/02/05	<50	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	08/09/05†	<50	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	11/21/05	<50	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---

Table 4. Analytical Results of Groundwater Samples

Wiggins Property

3454 Santa Rosa Avenue, Santa Rosa, CA

Well ID	Date Sampled	TPH-G	TPH-D	TPH-MO	B	T	E	X	EDB	EDC	TBA	MTBE	DIPE	ETBE	TAME	TOG
		ug/L														mg/L
DW-3450	05/06/04	<50	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	07/29/04	<50	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	03/02/05	<50	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	05/12/05	<50	---	---	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	8/9/05†	<50	---	---	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	11/21/05[e]	<50	---	---	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
DW-3521	05/06/04	<50	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	07/29/04	<50	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	03/02/05	<50	---	---	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<1.0	<1.0	<1.0	<1.0	---
	05/12/05	<50	---	---	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	8/9/05†	<50	---	---	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---
	11/21/05	<50	---	---	<1.0	<1.0	<1.0	<1.0	---	---	<25	<1.0	<1.0	<1.0	<1.0	---

Notes:

***** = Historical analytical data from other consultants.

****** = According to the laboratory, the sample does not display a fuel pattern.

a = The chromatogram does not exhibit a chromatographic pattern characteristic of diesel. Higher boiling point constituents of weathered gasoline are present.

b = The laboratoy's reportable detection limit was increased slightly due to limited sample volume.

c = The following additional compound was detected: 1,2-dichloroethane (1.0 ug/L)

d = The sample chromatogram exhibits a pattern that suggests both weathered gasoline and diesel are simultaneously present.

e = The following additional compound was detected: 1,2-dichloroethane (0.38 ug/L)

f = The following additional compound was detected: 1,2-dichloroethane (1.5 ug/L)

--- = Not analyzed

† = The ozone system was started-up on June 7, 2005.

<50 = Analyte not detected at indicated detection limit.

ND = Analyte not detected above detection limit.

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline

TPH-D = Total petroleum hydrocarbons as diesel

TPH-MO = Total petroleum hydrocarbons as motor oil

B = Benzene

T = Toluene

E = Ethyl benzene

X = Total xylenes

EDB = 1,2-dibromoethane

EDC = 1,2-dichloroethane

MTBE = Methyl tert-butyl ether

TBA = Tert-butyl alcohol

DIPE = Di-isopropyl ether

ETBE = Ethyl tert-butyl ether

TAME = Tert-amyl methyl ether

TOG = Total Oil & Grease

mg/L = milligrams per liter

ug/L = micrograms per liter

Analytical Methods:

418.1M = EPA Method for TOG

5030/8015M = EPA Method for TPH-G

3510/8015M = EPA Method for TPH-D & TPH-MO

8260B = EPA Method for BTEX, oxygenates, and lead scavengers

Table 5. Additional Groundwater Analytical Results

Wiggins Property

3454 Santa Rosa Avenue, Santa Rosa, CA

Well ID	Sample Date	Acetone	Hexavalent Chromium (CR^{+6})	Bromate (BrO_3^{-1})	Bromide (Br^{-1})	Molybdenum (Mo)	Selenium (Se)	Vanadium (V)
		ug/L	mg/L					
MW-5	05/12/05	<1.0	<0.005 [a]	<0.015 [b]	**0.32**	<0.05	<0.005	<0.05
	08/09/05†	<1.0	<0.005 [a]	<0.015 [b]	**0.36**	<0.05	<0.005	<0.05
	11/21/05	<1.0	<0.005 [a]	<0.015 [b]	**0.44**	<0.05	<0.005	<0.05
MW-8	05/12/05	<1.0	<0.005 [a]	<0.015 [b]	**0.14**	<0.05	<0.005	<0.05
	08/09/05†	<1.0	<0.005 [a]	<0.015 [b]	**0.086**	<0.05	<0.005	<0.05
	11/21/05	<1.0	<0.005 [a]	<0.015 [b]	**0.12**	<0.05	<0.005	<0.05
MW-9	05/12/05	<1.0	<0.005 [a]	<0.015 [b]	**0.30**	<0.05	<0.005	<0.05
	08/09/05†	<1.0	<0.005 [a]	<0.015 [b]	**0.14**	<0.05	<0.005	<0.05
	11/21/05	<1.0	<0.005 [a]	<0.015 [b]	**0.10**	<0.05	<0.005	<0.05
MW-10	05/12/05	<10	<0.005 [a]	<0.015 [b]	**0.41**	<0.05	<0.005	<0.05
	08/09/05†	<20	<0.005 [a]	<0.015 [b]	**0.56**	<0.05	<0.005	<0.05
	11/21/05	<10	<0.005 [a]	<0.015 [b]	**0.34**	<0.05	<0.005	<0.05
MW-11	05/12/05	<1.0	<0.005 [a]	<0.015 [b]	**0.25**	<0.05	<0.005	<0.05
	08/09/05†	<1.0	<0.005 [a]	<0.015 [b]	**0.19**	<0.05	<0.005	<0.05
	11/21/05	<1.0	<0.005 [a]	<0.015 [b]	**0.19**	<0.05	<0.005	<0.05
MW-12	05/12/05	<1.0	<0.005 [a]	<0.015 [b]	**0.24**	<0.05	<0.005	<0.05
	08/09/05†	<1.0	<0.005 [a]	<0.015 [b]	**0.33**	<0.05	<0.005	<0.05
	11/21/05	<1.0	<0.005 [a]	<0.015 [b]	**0.29**	<0.05	<0.005	<0.05

Notes:

--- = Not analyzed

a = The specific analysis for hexavalent chromium performed within 24 hours yielded a detection limit of 0.010 mg/L. Subsequent and separate analysis for total chromium using Zeeman graphite furnace (EPA 200.9) or ICP (EPA 6010) resulted in no detection of chromium at a detection limit well above 0.005 mg/L. Hexavalent chromium is not present at the level of 0.005 mg/L.

b = The sample required a dilution due to a sample matrix interference. The dilution resulted in a slight increase in the reported detection limit.

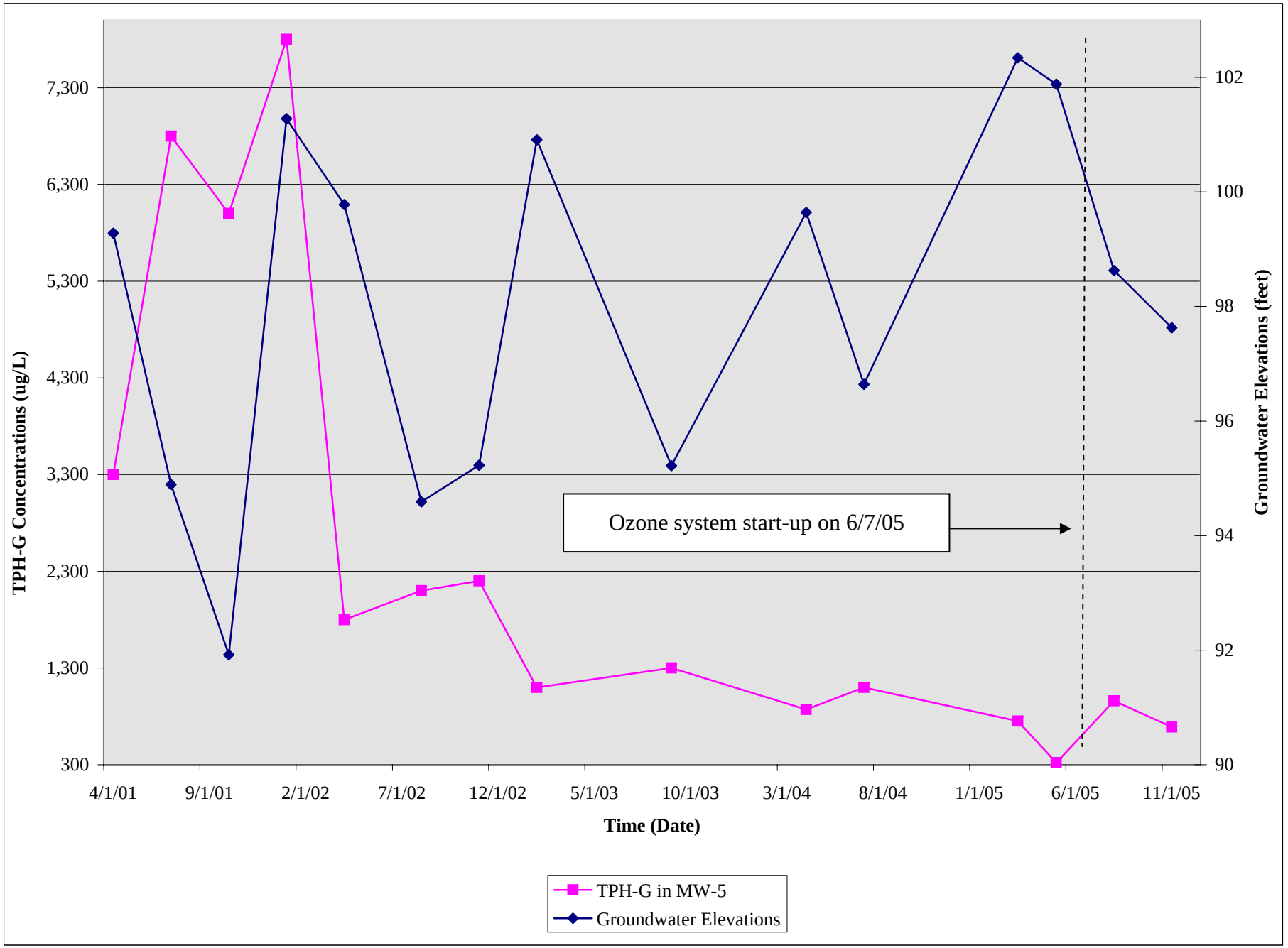
† = The ozone system was started-up on June 7, 2005.

Graphs

Graph 1: TPH-G Concentrations vs Groundwater Elevations Over Time in MW-5

Wiggins Property

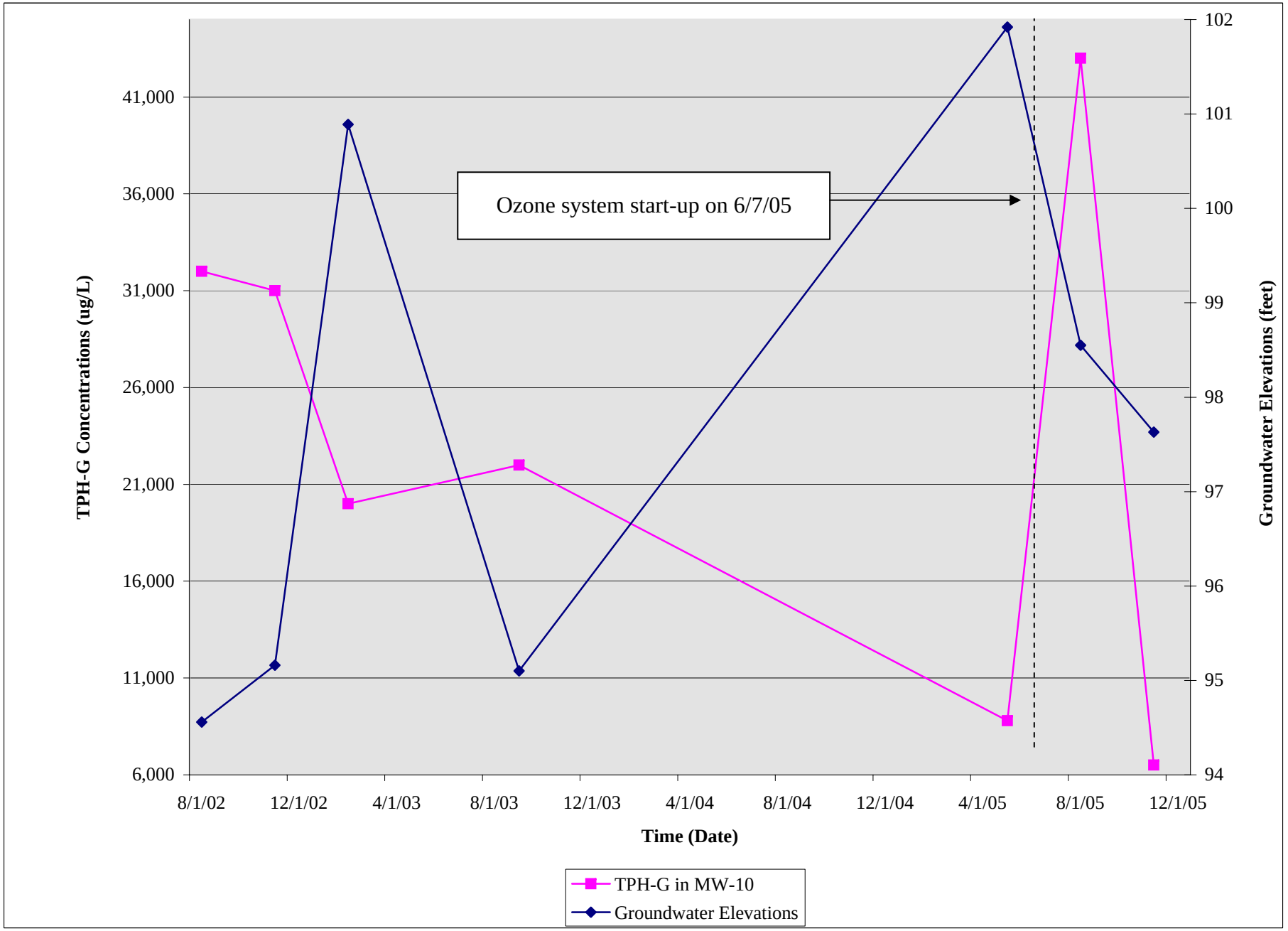
3454 Santa Rosa Ave., Santa Rosa, CA



Graph 2: TPH-G Concentrations vs Groundwater Elevations Over Time in MW-10

Wiggins Property

3454 Santa Rosa Ave., Santa Rosa, CA



Appendix A
Site-Specific Sampling Procedures

WINZLER & KELLY CONSULTING ENGINEERS

Site-Specific Groundwater Sampling Procedures
Wiggins Property
3454 Santa Rosa Avenue
Santa Rosa, California
November 21, 2005

1. Objective

Collect representative water level data and groundwater samples.

2. Background

Based on the analytical results of the previous sampling, field work proceeded from the monitoring wells in which the samples collected had the lowest concentrations of constituents to the wells that had the highest concentrations of constituents.

3. Personnel Required and Responsibilities

Winzler & Kelly Technicians: Pon Xayasaeng and Trevor White performed groundwater monitoring and sampling activities in accordance with the procedures outlined below.

4. Procedures

4a. Decontamination Procedures

- The wash and rinse buckets, the ES-60 purger pump, and the water level meter were decontaminated using alconox soap and potable water.
- The pump and water level meter were decontaminated following use in each well.
- Nitrile gloves were worn by the sampler at all times and changed after handling equipment and instruments.

4b. Calibration Procedures

- The Ultrameter was calibrated for conductivity and pH. Temperature calibration is not necessary in the Ultrameter.
- Conductivity was calibrated using KCl-7000 standard solution within its expiration date.
- The calibration for pH included “zeroing” the Ultrameter with a pH 7 buffer solution followed by adjusting the gain with acid and base buffers (4.00 and 10.00).

4c. Groundwater Elevations

- All monitoring wells were opened and expandable caps removed.
- Each well was allowed to equilibrate to atmospheric pressure.
- An electronic water level meter was used to measure the depth-to-groundwater in each monitoring well while the ozone system was operating.
- The depth, time, and visual observations regarding well access, condition, security, etc., were recorded on a Water Level Data Sheet.

4d. DO Concentrations

- The membrane on the YSI Model 55 DO meter was checked for the presence of bubbles and wrinkles, neither of which was observed.
- The meter was calibrated in the field prior to collecting measurements.
- Using the calibrated YSI Model 55 DO Meter, DO concentrations were measured in each monitoring well.

4e. Purging

- The volume of standing water in each monitoring well was calculated using the diameter of the well, the measured depth-to-water and the depth-to-bottom. The volume was recorded on the Well Sampling Data Sheet for each well.
- All wells were purged using an ES-60 purger pump attached to 40-feet of plastic tubing.
- Domestic wells were purged by running the tap closest to the well and until the well pump switched on.
- During purging of monitoring wells, the parameters of conductivity, pH, temperature, and oxidation-reduction potential were monitored using the Ultrameter at each well casing interval. Visual observations of color/odor/turbidity were also monitored.
- The time, readings, and visual comments were recorded on the Well Sampling Data Sheet.
- Each monitoring well was purged a minimum of three casing volumes, or until the indicator parameters stabilized.
- Purge and decontamination water was transferred to 55-gallon drums labeled and stored on site.

4f. Groundwater Sample Collection

- Groundwater samples were collected by lowering previously unused, disposable, polyethylene, bottom-filling bailers into the well.
- When completely full, the bailer was carefully retracted from the well casing.
- The water was transferred from the bailer to the appropriate certified clean sampling containers.
- Each VOA was immediately capped. The vial was checked for air bubbles by inverting and gently tapping. If any bubbles were visible, a new vial was filled and confirmed to be free of any air bubbles.
- All samples were labeled with the following information:

Sample ID	Date and Time Sample Collected
Location	Sampler's Initials

- Sample information was documented on a Chain-of-Custody form.
- All samples were placed in an ice chest chilled with ice.
- Upon completion of the sampling activities, each well was closed and secured by replacing the well cap and lock.

5. Equipment Used:

- Disposable gloves
- Potable water
- Alconox soap
- Containers to hold rinsate water
- Scrub Brushes
- Tools to open wells
- Keys to wells
- Water Level Data Form/pencil

- Well Sampling Data Sheet
- Groundwater Sampling Log form
- Water level meter
- 12-volt DC 1.5-inch electric submersible pump
- UltraMeter
- Containers to hold extracted water (as required)
- Disposable bailers (previously unused)
- Monofilament nylon line (50-lb test)
- Scissors
- Laboratory supplied sample containers (preserved, as required)
- Sample labels
- Ice chest
- Ice
- Labels/indelible marker
- Trash bags
- 55-gallon drums
- Ziploc bags
- Portable 12-V battery

Appendix B
Analytical Laboratory Report

Analytical Sciences

Report Date: December 14, 2005

Laboratory Report

Sonja Church
Winzler & Kelly Consulting Engineers
495 Tesconi Circle, Suite 9
Santa Rosa, CA 95401

Project Name: **Wiggins** **0259805001.32008**

Lab Project: **5112107**

This 29 page report of analytical data has been reviewed and approved for release.

Mark A. Valentini, Ph.D.

Laboratory Director

P.O. Box 750336
Petaluma, CA 94975-0336
Telephone: (707) 769-3128

110 Liberty Street
Petaluma, CA 94952

TPH Gasoline in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-01	**DW-3450**	Gasoline	ND	50

Date Sampled:	11/21/05	Date Analyzed:	11/23/05	QC Batch:	B000353
Date Received:	11/21/05	Method:	EPA 8015		

TPH Gasoline in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-02	**DW-3521**	Gasoline	ND	50

Date Sampled:	11/21/05	Date Analyzed:	11/23/05	QC Batch:	B000353
Date Received:	11/21/05	Method:	EPA 8015		

TPH Gasoline in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-03	**DW-3455**	Gasoline	ND	50

Date Sampled:	11/21/05	Date Analyzed:	11/23/05	QC Batch:	B000353
Date Received:	11/21/05	Method:	EPA 8015		

TPH Gasoline in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-04	**DW-3415**	Gasoline	ND	50

Date Sampled:	11/21/05	Date Analyzed:	11/23/05	QC Batch:	B000353
Date Received:	11/21/05	Method:	EPA 8015		

TPH Gasoline in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-05	**MW-6**	Gasoline	ND	50

Date Sampled:	11/21/05	Date Analyzed:	11/23/05	QC Batch:	B000353
Date Received:	11/21/05	Method:	EPA 8015		

TPH Gasoline in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-06	**MW-7**	Gasoline	ND	50

Date Sampled:	11/21/05	Date Analyzed:	11/23/05	QC Batch:	B000353
Date Received:	11/21/05	Method:	EPA 8015		

TPH Gasoline in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-07	**MW-8**	Gasoline	ND	50

Date Sampled:	11/21/05	Date Analyzed:	11/23/05	QC Batch:	B000353
Date Received:	11/21/05	Method:	EPA 8015		

TPH Gasoline in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-08	**MW-12**	Gasoline	ND	50

Date Sampled:	11/21/05	Date Analyzed:	11/23/05	QC Batch:	B000353
Date Received:	11/21/05	Method:	EPA 8015		

TPH Gasoline in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-09	**MW-11**	Gasoline	ND	50

Date Sampled:	11/21/05	Date Analyzed:	11/23/05	QC Batch:	B000353
Date Received:	11/21/05	Method:	EPA 8015		

TPH Gasoline in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-10	**MW-9**	Gasoline	ND	50

Date Sampled:	11/21/05	Date Analyzed:	11/24/05	QC Batch:	B000353
Date Received:	11/21/05	Method:	EPA 8015		

TPH Gasoline in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-11	**MW-5**	Gasoline	690	50

Date Sampled:	11/21/05	Date Analyzed:	11/24/05	QC Batch:	B000353
Date Received:	11/21/05	Method:	EPA 8015		

TPH Gasoline in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-12	**MW-10**	Gasoline	6500	500

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch:	B000353
Date Received:	11/21/05	Method:	EPA 8015		

Volatile Hydrocarbons by GC/MS in Water

Lab#	Sample ID	Compound Name	Result (ug/L)		RDL (ug/L)
5112107-01	**DW-3450**	Benzene	ND	(1)	1.0
		Toluene	ND		1.0
		Ethylbenzene	ND		1.0
		m,p-Xylene	ND		1.0
		o-Xylene	ND		1.0
		Tertiary Butyl Alcohol (TBA)	ND		25
		Methyl tert-Butyl Ether (MTBE)	ND		1.0
		Di-isopropyl Ether (DIPE)	ND		1.0
		Ethyl tert-Butyl Ether (ETBE)	ND		1.0
		Tert-Amyl Methyl Ether (TAME)	ND		1.0
		Acetone	ND		1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
Dibromofluoromethane	19.1	96	70-130
Toluene-d8	19.5	98	70-130
4-Bromofluorobenzene	23.7	118	70-130

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch: B000358
Date Received:	11/21/05	Method:	EPA 8260B	

Volatile Hydrocarbons by GC/MS in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-02	**DW-3521**	Benzene	ND	1.0
		Toluene	ND	1.0
		Ethylbenzene	ND	1.0
		m,p-Xylene	ND	1.0
		o-Xylene	ND	1.0
		Tertiary Butyl Alcohol (TBA)	ND	25
		Methyl tert-Butyl Ether (MTBE)	ND	1.0
		Di-isopropyl Ether (DIPE)	ND	1.0
		Ethyl tert-Butyl Ether (ETBE)	ND	1.0
		Tert-Amyl Methyl Ether (TAME)	ND	1.0
		Acetone	ND	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
Dibromofluoromethane	20.2	101	70-130
Toluene-d8	20.9	104	70-130
4-Bromofluorobenzene	22.5	112	70-130

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch: B000358
Date Received:	11/21/05	Method:	EPA 8260B	

Volatile Hydrocarbons by GC/MS in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-03	**DW-3455**	Benzene	ND	1.0
		Toluene	ND	1.0
		Ethylbenzene	ND	1.0
		m,p-Xylene	ND	1.0
		o-Xylene	ND	1.0
		Tertiary Butyl Alcohol (TBA)	ND	25
		Methyl tert-Butyl Ether (MTBE)	ND	1.0
		Di-isopropyl Ether (DIPE)	ND	1.0
		Ethyl tert-Butyl Ether (ETBE)	ND	1.0
		Tert-Amyl Methyl Ether (TAME)	ND	1.0
		Acetone	ND	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
Dibromofluoromethane	19.7	98	70-130
Toluene-d8	20.8	104	70-130
4-Bromofluorobenzene	21.8	109	70-130

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch: B000358
Date Received:	11/21/05	Method:	EPA 8260B	

Volatile Hydrocarbons by GC/MS in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-04	**DW-3415**	Benzene	ND	1.0
		Toluene	ND	1.0
		Ethylbenzene	ND	1.0
		m,p-Xylene	ND	1.0
		o-Xylene	ND	1.0
		Tertiary Butyl Alcohol (TBA)	ND	25
		Methyl tert-Butyl Ether (MTBE)	ND	1.0
		Di-isopropyl Ether (DIPE)	ND	1.0
		Ethyl tert-Butyl Ether (ETBE)	ND	1.0
		Tert-Amyl Methyl Ether (TAME)	ND	1.0
		Acetone	ND	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
Dibromofluoromethane	20.3	102	70-130
Toluene-d8	20.9	104	70-130
4-Bromofluorobenzene	21.3	106	70-130

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch: B000358
Date Received:	11/21/05	Method:	EPA 8260B	

Volatile Hydrocarbons by GC/MS in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-05	**MW-6**	Benzene	ND	1.0
		Toluene	ND	1.0
		Ethylbenzene	ND	1.0
		m,p-Xylene	ND	1.0
		o-Xylene	ND	1.0
		Tertiary Butyl Alcohol (TBA)	ND	25
		Methyl tert-Butyl Ether (MTBE)	ND	1.0
		Di-isopropyl Ether (DIPE)	ND	1.0
		Ethyl tert-Butyl Ether (ETBE)	ND	1.0
		Tert-Amyl Methyl Ether (TAME)	ND	1.0
		Acetone	ND	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
Dibromofluoromethane	20.5	102	70-130
Toluene-d8	21.1	106	70-130
4-Bromofluorobenzene	21.5	108	70-130

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch: B000358
Date Received:	11/21/05	Method:	EPA 8260B	

Volatile Hydrocarbons by GC/MS in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-06	**MW-7**	Benzene	ND	1.0
		Toluene	ND	1.0
		Ethylbenzene	ND	1.0
		m,p-Xylene	ND	1.0
		o-Xylene	ND	1.0
		Tertiary Butyl Alcohol (TBA)	ND	25
		Methyl tert-Butyl Ether (MTBE)	ND	1.0
		Di-isopropyl Ether (DIPE)	ND	1.0
		Ethyl tert-Butyl Ether (ETBE)	ND	1.0
		Tert-Amyl Methyl Ether (TAME)	ND	1.0
		Acetone	ND	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
Dibromofluoromethane	20.3	102	70-130
Toluene-d8	21.3	106	70-130
4-Bromofluorobenzene	21.4	107	70-130

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch: B000358
Date Received:	11/21/05	Method:	EPA 8260B	

Volatile Hydrocarbons by GC/MS in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-07	**MW-8**	Benzene	ND	1.0
		Toluene	ND	1.0
		Ethylbenzene	ND	1.0
		m,p-Xylene	ND	1.0
		o-Xylene	ND	1.0
		Tertiary Butyl Alcohol (TBA)	ND	25
		Methyl tert-Butyl Ether (MTBE)	ND	1.0
		Di-isopropyl Ether (DIPE)	ND	1.0
		Ethyl tert-Butyl Ether (ETBE)	ND	1.0
		Tert-Amyl Methyl Ether (TAME)	ND	1.0
		Acetone	ND	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
Dibromofluoromethane	20.3	102	70-130
Toluene-d8	21.2	106	70-130
4-Bromofluorobenzene	21.1	106	70-130

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch: B000358
Date Received:	11/21/05	Method:	EPA 8260B	

Volatile Hydrocarbons by GC/MS in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-08	**MW-12**	Benzene	ND	1.0
		Toluene	ND	1.0
		Ethylbenzene	ND	1.0
		m,p-Xylene	ND	1.0
		o-Xylene	ND	1.0
		Tertiary Butyl Alcohol (TBA)	ND	25
		Methyl tert-Butyl Ether (MTBE)	ND	1.0
		Di-isopropyl Ether (DIPE)	ND	1.0
		Ethyl tert-Butyl Ether (ETBE)	ND	1.0
		Tert-Amyl Methyl Ether (TAME)	ND	1.0
		Acetone	ND	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
Dibromofluoromethane	20.2	101	70-130
Toluene-d8	21.0	105	70-130
4-Bromofluorobenzene	21.1	106	70-130

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch: B000358
Date Received:	11/21/05	Method:	EPA 8260B	

Volatile Hydrocarbons by GC/MS in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-09	**MW-11**	Benzene	ND	1.0
		Toluene	ND	1.0
		Ethylbenzene	ND	1.0
		m,p-Xylene	ND	1.0
		o-Xylene	ND	1.0
		Tertiary Butyl Alcohol (TBA)	ND	25
		Methyl tert-Butyl Ether (MTBE)	ND	1.0
		Di-isopropyl Ether (DIPE)	ND	1.0
		Ethyl tert-Butyl Ether (ETBE)	ND	1.0
		Tert-Amyl Methyl Ether (TAME)	ND	1.0
		Acetone	ND	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
Dibromofluoromethane	20.5	102	70-130
Toluene-d8	21.1	106	70-130
4-Bromofluorobenzene	21.0	105	70-130

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch: B000358
Date Received:	11/21/05	Method:	EPA 8260B	

Volatile Hydrocarbons by GC/MS in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-10	**MW-9**	Benzene	ND	1.0
		Toluene	ND	1.0
		Ethylbenzene	ND	1.0
		m,p-Xylene	ND	1.0
		o-Xylene	ND	1.0
		Tertiary Butyl Alcohol (TBA)	ND	25
		Methyl tert-Butyl Ether (MTBE)	ND	1.0
		Di-isopropyl Ether (DIPE)	ND	1.0
		Ethyl tert-Butyl Ether (ETBE)	ND	1.0
		Tert-Amyl Methyl Ether (TAME)	ND	1.0
		Acetone	ND	1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
Dibromofluoromethane	20.4	102	70-130
Toluene-d8	21.0	105	70-130
4-Bromofluorobenzene	20.4	102	70-130

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch: B000358
Date Received:	11/21/05	Method:	EPA 8260B	

Volatile Hydrocarbons by GC/MS in Water

Lab#	Sample ID	Compound Name	Result (ug/L)		RDL (ug/L)
5112107-11	**MW-5**	Benzene	1.9	(1)a	1.0
		Toluene	ND		1.0
		Ethylbenzene	ND		1.0
		m,p-Xylene	ND		1.0
		o-Xylene	ND		1.0
		Tertiary Butyl Alcohol (TBA)	34		25
		Methyl tert-Butyl Ether (MTBE)	ND		1.0
		Di-isopropyl Ether (DIPE)	ND		1.0
		Ethyl tert-Butyl Ether (ETBE)	ND		1.0
		Tert-Amyl Methyl Ether (TAME)	ND		1.0
		Acetone	ND		1.0

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
Dibromofluoromethane	20.2	101	70-130
Toluene-d8	21.0	105	70-130
4-Bromofluorobenzene	20.6	103	70-130

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch: B000358
Date Received:	11/21/05	Method:	EPA 8260B	

Volatile Hydrocarbons by GC/MS in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-12	**MW-10**	Benzene	ND	10
		Toluene	ND	10
		Ethylbenzene	71	10
		m,p-Xylene	220	10
		o-Xylene	16	10
		Tertiary Butyl Alcohol (TBA)	ND	250
		Methyl tert-Butyl Ether (MTBE)	ND	10
		Di-isopropyl Ether (DIPE)	ND	10
		Ethyl tert-Butyl Ether (ETBE)	ND	10
		Tert-Amyl Methyl Ether (TAME)	ND	10
		Acetone	ND	10

Surrogates	Result (ug/L)	% Recovery	Acceptance Range (%)
Dibromofluoromethane	20.3	102	70-130
Toluene-d8	21.2	106	70-130
4-Bromofluorobenzene	20.5	102	70-130

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch: B000358
Date Received:	11/21/05	Method:	EPA 8260B	

TPH Diesel & Motor Oil in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-05	**MW-6**	Diesel	ND	50
		Motor Oil	ND	200

Date Sampled:	11/21/05	Date Analyzed:	11/22/05	QC Batch:	B000340
Date Received:	11/21/05	Method:	EPA 8015M		

TPH Diesel & Motor Oil in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-06	**MW-7**	Diesel	ND	50
		Motor Oil	ND	200

Date Sampled:	11/21/05	Date Analyzed:	11/22/05	QC Batch:	B000340
Date Received:	11/21/05	Method:	EPA 8015M		

TPH Diesel & Motor Oil in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-07	**MW-8**	Diesel	ND	50
		Motor Oil	ND	200

Date Sampled:	11/21/05	Date Analyzed:	11/22/05	QC Batch:	B000340
Date Received:	11/21/05	Method:	EPA 8015M		

TPH Diesel & Motor Oil in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-08	**MW-12**	Diesel	ND	50
		Motor Oil	ND	200

Date Sampled:	11/21/05	Date Analyzed:	11/22/05	QC Batch:	B000340
Date Received:	11/21/05	Method:	EPA 8015M		

TPH Diesel & Motor Oil in Water

Lab#	Sample ID	Compound Name	Result (ug/L)		RDL (ug/L)
5112107-09	**MW-11**	Diesel	ND		50
		Motor Oil	ND		200

Date Sampled:	11/21/05	Date Analyzed:	11/22/05	QC Batch:	B000340
Date Received:	11/21/05	Method:	EPA 8015M		

TPH Diesel & Motor Oil in Water

Lab#	Sample ID	Compound Name	Result (ug/L)		RDL (ug/L)
5112107-10	**MW-9**	Diesel	ND		50
		Motor Oil	ND		200

Date Sampled:	11/21/05	Date Analyzed:	11/22/05	QC Batch:	B000340
Date Received:	11/21/05	Method:	EPA 8015M		

TPH Diesel & Motor Oil in Water

Lab#	Sample ID	Compound Name	Result (ug/L)		RDL (ug/L)
5112107-11	**MW-5**	Diesel	71	GP	50
		Motor Oil	ND		200

Date Sampled:	11/21/05	Date Analyzed:	11/22/05	QC Batch:	B000340
Date Received:	11/21/05	Method:	EPA 8015M		

TPH Diesel & Motor Oil in Water

Lab#	Sample ID	Compound Name	Result (ug/L)	RDL (ug/L)
5112107-12	**MW-10**	Diesel	29000	500
		Motor Oil	ND	2000

Date Sampled:	11/21/05	Date Analyzed:	11/23/05	QC Batch:	B000340
Date Received:	11/21/05	Method:	EPA 8015M		

Total Oil & Grease in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-07	**MW-8**	Total Oil & Grease	ND	0.50

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch:	B000347
Date Received:	11/21/05	Method:	EPA 418.1M		

Total Oil & Grease in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-08	**MW-12**	Total Oil & Grease	ND	0.50

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch:	B000347
Date Received:	11/21/05	Method:	EPA 418.1M		

Total Oil & Grease in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-09	**MW-11**	Total Oil & Grease	ND	0.50

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch:	B000347
Date Received:	11/21/05	Method:	EPA 418.1M		

Total Oil & Grease in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-10	**MW-9**	Total Oil & Grease	ND	0.50

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch:	B000347
Date Received:	11/21/05	Method:	EPA 418.1M		

Total Oil & Grease in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-11	**MW-5**	Total Oil & Grease	ND	0.50

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch:	B000347
Date Received:	11/21/05	Method:	EPA 418.1M		

Total Oil & Grease in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-12	**MW-10**	Total Oil & Grease	42	0.50

Date Sampled:	11/21/05	Date Analyzed:	11/28/05	QC Batch:	B000347
Date Received:	11/21/05	Method:	EPA 418.1M		

Dissolved Metals in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-07	**MW-8**	Molybdenum (Mo)	ND	0.050
		Selenium (Se)	ND	0.005
		Vanadium (V)	ND	0.050

Date Sampled:	11/21/05	Date Analyzed:	11/29/05	QC Batch:	B000343
Date Received:	11/21/05	Method:	EPA 6010B		

Dissolved Metals in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-08	**MW-12**	Molybdenum (Mo)	ND	0.050
		Selenium (Se)	ND	0.005
		Vanadium (V)	ND	0.050

Date Sampled:	11/21/05	Date Analyzed:	11/29/05	QC Batch:	B000343
Date Received:	11/21/05	Method:	EPA 6010B		

Dissolved Metals in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-09	**MW-11**	Molybdenum (Mo)	ND	0.050
		Selenium (Se)	ND	0.005
		Vanadium (V)	ND	0.050

Date Sampled:	11/21/05	Date Analyzed:	11/29/05	QC Batch: B000343
Date Received:	11/21/05	Method:	EPA 6010B	

Dissolved Metals in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-10	**MW-9**	Molybdenum (Mo)	ND	0.050
		Selenium (Se)	ND	0.005
		Vanadium (V)	ND	0.050

Date Sampled:	11/21/05	Date Analyzed:	11/29/05	QC Batch: B000343
Date Received:	11/21/05	Method:	EPA 6010B	

Dissolved Metals in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-11	**MW-5**	Molybdenum (Mo)	ND	0.050
		Selenium (Se)	ND	0.005
		Vanadium (V)	ND	0.050

Date Sampled:	11/21/05	Date Analyzed:	11/29/05	QC Batch: B000343
Date Received:	11/21/05	Method:	EPA 6010B	

Dissolved Metals in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-12	**MW-10**	Molybdenum (Mo)	ND	0.050
		Selenium (Se)	ND	0.005
		Vanadium (V)	ND	0.050

Date Sampled:	11/21/05	Date Analyzed:	11/29/05	QC Batch: B000343
Date Received:	11/21/05	Method:	EPA 6010B	

Bromate in Water

Lab#	Sample ID	Compound Name	Result (mg/L)		RDL (mg/L)
5112107-07	**MW-8**	Bromate	ND	M3	0.015

Date Sampled:	11/21/05	Date Analyzed:	12/01/05	QC Batch: B000351
Date Received:	11/21/05	Method:	EPA 300	

Bromate in Water

Lab#	Sample ID	Compound Name	Result (mg/L)		RDL (mg/L)
5112107-08	**MW-12**	Bromate	ND	M3	0.015

Date Sampled:	11/21/05	Date Analyzed:	12/01/05	QC Batch: B000351
Date Received:	11/21/05	Method:	EPA 300	

Bromate in Water

Lab#	Sample ID	Compound Name	Result (mg/L)		RDL (mg/L)
5112107-09	**MW-11**	Bromate	ND	M3	0.015

Date Sampled:	11/21/05	Date Analyzed:	12/01/05	QC Batch: B000351
Date Received:	11/21/05	Method:	EPA 300	

Bromate in Water

Lab#	Sample ID	Compound Name	Result (mg/L)		RDL (mg/L)
5112107-10	**MW-9**	Bromate	ND	M3	0.015

Date Sampled:	11/21/05	Date Analyzed:	12/01/05	QC Batch:	B000351
Date Received:	11/21/05	Method:	EPA 300		

Bromate in Water

Lab#	Sample ID	Compound Name	Result (mg/L)		RDL (mg/L)
5112107-11	**MW-5**	Bromate	ND	M3	0.015

Date Sampled:	11/21/05	Date Analyzed:	11/30/05	QC Batch:	B000351
Date Received:	11/21/05	Method:	EPA 300		

Bromate in Water

Lab#	Sample ID	Compound Name	Result (mg/L)		RDL (mg/L)
5112107-12	**MW-10**	Bromate	ND	M3	0.015

Date Sampled:	11/21/05	Date Analyzed:	12/01/05	QC Batch:	B000351
Date Received:	11/21/05	Method:	EPA 300		

Bromide in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-07	**MW-8**	Bromide	0.12	0.020

Date Sampled:	11/21/05	Date Analyzed:	11/30/05	QC Batch:	B000351
Date Received:	11/21/05	Method:	EPA 300.0		

Bromide in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-08	**MW-12**	Bromide	0.29	0.020

Date Sampled:	11/21/05	Date Analyzed:	11/30/05	QC Batch:	B000351
Date Received:	11/21/05	Method:	EPA 300.0		

Bromide in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-09	**MW-11**	Bromide	0.19	0.020

Date Sampled:	11/21/05	Date Analyzed:	11/30/05	QC Batch:	B000351
Date Received:	11/21/05	Method:	EPA 300.0		

Bromide in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-10	**MW-9**	Bromide	0.10	0.020

Date Sampled:	11/21/05	Date Analyzed:	11/30/05	QC Batch:	B000351
Date Received:	11/21/05	Method:	EPA 300.0		

Bromide in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-11	**MW-5**	Bromide	0.44	0.020

Date Sampled:	11/21/05	Date Analyzed:	11/30/05	QC Batch:	B000351
Date Received:	11/21/05	Method:	EPA 300.0		

Bromide in Water

Lab#	Sample ID	Compound Name	Result (mg/L)	RDL (mg/L)
5112107-12	**MW-10**	Bromide	0.34	0.020

Date Sampled:	11/21/05	Date Analyzed:	11/30/05	QC Batch:	B000351
Date Received:	11/21/05	Method:	EPA 300.0		

Hexavalent Chromium in Water

Lab#	Sample ID	Compound Name	Result (mg/L)		RDL (mg/L)
5112107-07	**MW-8**	Hexavalent Chromium	ND	(CL)	0.005

Date Sampled:	11/21/05	Date Analyzed:	11/21/05	QC Batch:	B000346
Date Received:	11/21/05	Method:	EPA 7196A		

Hexavalent Chromium in Water

Lab#	Sample ID	Compound Name	Result (mg/L)		RDL (mg/L)
5112107-08	**MW-12**	Hexavalent Chromium	ND	(CL)	0.005

Date Sampled:	11/21/05	Date Analyzed:	11/21/05	QC Batch:	B000346
Date Received:	11/21/05	Method:	EPA 7196A		

Hexavalent Chromium in Water

Lab#	Sample ID	Compound Name	Result (mg/L)		RDL (mg/L)
5112107-09	**MW-11**	Hexavalent Chromium	ND	(CL)	0.005

Date Sampled:	11/21/05	Date Analyzed:	11/21/05	QC Batch:	B000346
Date Received:	11/21/05	Method:	EPA 7196A		

Hexavalent Chromium in Water

Lab#	Sample ID	Compound Name	Result (mg/L)		RDL (mg/L)
5112107-10	**MW-9**	Hexavalent Chromium	ND	(CL)	0.005

Date Sampled:	11/21/05	Date Analyzed:	11/21/05	QC Batch:	B000346
Date Received:	11/21/05	Method:	EPA 7196A		

Hexavalent Chromium in Water

Lab#	Sample ID	Compound Name	Result (mg/L)		RDL (mg/L)
5112107-11	**MW-5**	Hexavalent Chromium	ND	(CL)	0.005

Date Sampled:	11/21/05	Date Analyzed:	11/21/05	QC Batch:	B000346
Date Received:	11/21/05	Method:	EPA 7196A		

Hexavalent Chromium in Water

Lab#	Sample ID	Compound Name	Result (mg/L)		RDL (mg/L)
5112107-12	**MW-10**	Hexavalent Chromium	ND	(CL)	0.005

Date Sampled:	11/21/05	Date Analyzed:	11/21/05	QC Batch:	B000346
Date Received:	11/21/05	Method:	EPA 7196A		

Quality Assurance Report

TPH Gasoline in Water

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B000353 - EPA 5030 GC										
Blank (B000353-BLK1)				Prepared & Analyzed: 11/23/05						
Gasoline	ND	50	ug/L							
Matrix Spike (B000353-MS1)		**Source: 5112306-01**		Prepared & Analyzed: 11/23/05						
Benzene	9.36	0.50	ug/L	10.0	ND	94	70-130			
Toluene	10.2	0.50	ug/L	10.0	ND	102	70-130			
Ethylbenzene	9.62	0.50	ug/L	10.0	ND	96	70-130			
Xylenes	29.7	1.5	ug/L	30.0	ND	99	70-130			
Matrix Spike Dup (B000353-MSD1)		**Source: 5112306-01**		Prepared & Analyzed: 11/23/05						
Benzene	9.61	0.50	ug/L	10.0	ND	96	70-130	2	20	
Toluene	9.70	0.50	ug/L	10.0	ND	97	70-130	5	20	
Ethylbenzene	9.47	0.50	ug/L	10.0	ND	95	70-130	1	20	
Xylenes	29.2	1.5	ug/L	30.0	ND	97	70-130	2	20	

Volatile Hydrocarbons by GC/MS in Water

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B000358 - EPA 5030 GC/MS										
Blank (B000358-BLK1)				Prepared & Analyzed: 11/28/05						
Benzene	ND	1.0	ug/L							
Toluene	ND	1.0	ug/L							
Ethylbenzene	ND	1.0	ug/L							
m,p-Xylene	ND	1.0	ug/L							
o-Xylene	ND	1.0	ug/L							
Tertiary Butyl Alcohol (TBA)	ND	25	ug/L							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	ug/L							
Di-isopropyl Ether (DIPE)	ND	1.0	ug/L							
Ethyl tert-Butyl Ether (ETBE)	ND	1.0	ug/L							
Tert-Amyl Methyl Ether (TAME)	ND	1.0	ug/L							
Acetone	ND	1.0	ug/L							
Surrogate: Dibromofluoromethane	*19.1*		*ug/L*	*20.0*		*96*	*70-130*			
Surrogate: Toluene-d8	*19.7*		*ug/L*	*20.0*		*98*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*24.3*		*ug/L*	*20.0*		*122*	*70-130*			
Matrix Spike (B000358-MS1)		**Source: 5112107-01**		Prepared & Analyzed: 11/28/05						
1,1-Dichloroethene (1,1-DCE)	18.9	1.0	ug/L	25.0	ND	76	70-130			
Benzene	22.0	1.0	ug/L	25.0	ND	88	70-130			
Trichloroethene (TCE)	21.8	1.0	ug/L	25.0	ND	87	70-130			
Toluene	22.4	1.0	ug/L	25.0	ND	90	70-130			
Chlorobenzene	21.4	1.0	ug/L	25.0	ND	86	70-130			
Surrogate: Dibromofluoromethane	*19.4*		*ug/L*	*20.0*		*97*	*70-130*			
Surrogate: Toluene-d8	*20.2*		*ug/L*	*20.0*		*101*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*22.7*		*ug/L*	*20.0*		*114*	*70-130*			
Matrix Spike Dup (B000358-MSD1)		**Source: 5112107-01**		Prepared & Analyzed: 11/28/05						
1,1-Dichloroethene (1,1-DCE)	19.3	1.0	ug/L	25.0	ND	77	70-130	1	20	
Benzene	22.5	1.0	ug/L	25.0	ND	90	70-130	2	20	
Trichloroethene (TCE)	22.1	1.0	ug/L	25.0	ND	88	70-130	1	20	
Toluene	22.7	1.0	ug/L	25.0	ND	91	70-130	1	20	
Chlorobenzene	21.8	1.0	ug/L	25.0	ND	87	70-130	1	20	
Surrogate: Dibromofluoromethane	*19.9*		*ug/L*	*20.0*		*100*	*70-130*			
Surrogate: Toluene-d8	*20.6*		*ug/L*	*20.0*		*103*	*70-130*			
Surrogate: 4-Bromofluorobenzene	*22.7*		*ug/L*	*20.0*		*114*	*70-130*			

TPH Diesel & Motor Oil in Water

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B000340 - EPA 3510C										
Blank (B000340-BLK1)				Prepared & Analyzed: 11/17/05						
Diesel	ND	50	ug/L							
Motor Oil	ND	200	ug/L							
LCS (B000340-BS1)				Prepared & Analyzed: 11/17/05						
Diesel	1980	50	ug/L	2740		72	65-135			
LCS Dup (B000340-BSD1)				Prepared & Analyzed: 11/17/05						
Diesel	2150	50	ug/L	2740		78	65-135	8	20	

Total Oil & Grease in Water

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B000347 - EPA 3510C_MS										
Blank (B000347-BLK1)				Prepared: 11/22/05 Analyzed: 11/28/05						
Total Oil & Grease	ND	0.50	mg/L							
LCS (B000347-BS1)				Prepared: 11/22/05 Analyzed: 11/28/05						
Motor Oil	29.6	0.50	mg/L	29.0		102	70-130			
LCS Dup (B000347-BSD1)				Prepared: 11/22/05 Analyzed: 11/28/05						
Motor Oil	30.2	0.50	mg/L	29.5		102	70-130	0	20	

Dissolved Metals in Water

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B000343 - EPA 3010A										
Blank (B000343-BLK1)				Prepared: 11/21/05 Analyzed: 11/29/05						
Molybdenum (Mo)	ND	0.050	mg/L							
Vanadium (V)	ND	0.050	mg/L							
LCS (B000343-BS1)				Prepared: 11/22/05 Analyzed: 11/29/05						
Vanadium (V)	0.520	0.050	mg/L	0.500		104	70-130			
Molybdenum (Mo)	0.512	0.050	mg/L	0.500		102	70-130			
LCS Dup (B000343-BSD1)				Prepared: 11/22/05 Analyzed: 11/29/05						
Molybdenum (Mo)	0.509	0.050	mg/L	0.500		102	70-130	0	20	
Vanadium (V)	0.518	0.050	mg/L	0.500		104	70-130	0	20	
Batch B000357 - EPA 200.9										
Blank (B000357-BLK1)				Prepared: 11/28/05 Analyzed: 11/30/05						
Selenium (Se)	ND	0.005	mg/L							
Matrix Spike (B000357-MS1)		**Source: 5112110-01**		Prepared: 11/28/05 Analyzed: 11/30/05						
Selenium (Se)	0.542	0.10	mg/L	0.500		108	70-130			
Matrix Spike Dup (B000357-MSD1)		**Source: 5112110-01**		Prepared: 11/28/05 Analyzed: 11/30/05						
Selenium (Se)	0.528	0.10	mg/L	0.500		106	70-130	2	20	

Bromate in Water

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B000351 - NO PREP										
Blank (B000351-BLK1)				Prepared: 11/22/05 Analyzed: 11/23/05						
Bromate	ND	0.005	mg/L							

Bromide in Water

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B000351 - NO PREP										
Blank (B000351-BLK1)				Prepared: 11/22/05 Analyzed: 11/23/05						
Bromide	ND	0.010	mg/L							

Hexavalent Chromium in Water

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B000346 - NO PREP										
Blank (B000346-BLK1)				Prepared & Analyzed: 11/21/05						
Hexavalent Chromium	ND	0.005	mg/L							
LCS (B000346-BS1)				Prepared & Analyzed: 11/21/05						
Hexavalent Chromium	1.20	0.005	mg/L	1.00		120	70-130			
LCS Dup (B000346-BSD1)				Prepared & Analyzed: 11/21/05						
Hexavalent Chromium	1.20	0.005	mg/L	1.00		120	70-130	0	20	

Notes and Definitions

M3	The sample required a dilution due to a sample matrix interference. The dilution resulted in a slight increase in the reported detection limit.
GP	The sample chromatogram does not exhibit a characteristic pattern of diesel. Higher boiling point constituents of weathered gasoline are present.
(CL)	The specific analysis for hexavalent chromium performed within 24 hours yielded a detection limit of 0.010 mg/L. Separate analysis for total chromium using ICP (EPA 6010) resulted in no detection of chromium above 0.005 mg/L.
(1)a	The following additional compound was detected: 1,2-Dichloroethane (1.5 ug/l).
(1)	The following additional compound was detected: 1,2-Dichloroethane (0.38 ug/l).
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference

Analytical Sciences
P.O. Box 750336, Petaluma, CA 94975-0336
110 Liberty Street, Petaluma, CA 94952
(707) 769-3128
Fax (707) 769-8093

CHAIN OF CUSTODY

LAB PROJECT NUMBER: 5112107
WINZLER & KELLY PROJECT NAME: Wiggins
WINZLER & KELLY PROJECT NUMBER: 0259805001.32008

CLIENT INFORMATION

COMPANY NAME: WINZLER & KELLY CONSULTING ENGINEERS
ADDRESS: 495 TESCONI CIRCLE, SUITE 9
SANTA ROSA, CA 95401-4696
CONTACT: Sonya: Results; Pon: Questions
PHONE#: (707) 523-1010
FAX #: (707) 527-8679

TURNAROUND TIME (check one)

MOBILE LAB ____
SAME DAY ____ 24 HOURS ____
48 HOURS ____ 72 HOURS ____
5 DAYS ____ NORMAL X

GEOTRACKER EDF: X Y ___ N
GLOBAL ID: T0609700531

COOLER TEMPERATURE
Blue Ice °C

COC
PAGE 1 OF 2

ITEM	CLIENT SAMPLE I.D.	DATE SAMPLED	TIME	MATRIX	# CONT.	PRESV. YES/NO	TPH/GAS EPA 8015M/8260	TPH DIESEL / MOTOR OIL EPA 8015M	VOLATILE HYDROCARBONS EPA 8260B (FULL LIST)	BTEX & OXYGENATES EPA 8260B	OXYGENATED FUEL ADDITIVES EPA 8260M	CHLORINATED SOLVENTS EPA 8010 / EPA 8260B	SEMI-VOLATILE HYDROCARBONS EPA 8270	TRPH / TOG SM 5520F / EPA 418.1M	PESTICIDES / PCB'S EPA 8081 / 8141 / 8082	EPA 418.1 / TOG	EPA 3192 Hex Chrome	EPA 300 Bromate	EPA 6010B V, Se, Mo, Bromide	COMMENTS	LAB SAMPLE #
1	DW-3450	11/2/05	12:54	W	4	Y/OS	X			X										* Add Acetone to EPA 8260B	5112107-01
2	DW-3521		13:25		4		X			X											02
3	DW-3455		13:18		4		X			X											03
4	DW-3415		13:09		4		X			X											04
5	MW-6		11:06		5	Y/N	X	X		X										* Set Hex Chrome limit @ < 5 ug/L and Bromate @ < 10 ug/L	05
6	MW-7		11:14		5	Y/N	X	X		X											06
7	MW-8		11:37		8	Y/N	X	X		X						X	X	X	X		07
8	MW-12		12:06		8	Y/N	X	X		X						X	X	X	X		08
9	MW-11		12:16		8	Y/N	X	X		X						X	X	X	X		09
10	MW-9		13:38		8	Y/N	X	X		X						X	X	X	X		10
11	MW-5		13:45		8	Y/N	X	X		X						X	X	X	X		11

SIGNATURES

SAMPLED BY: Pon Xayaseng & Trevor White

RELINQUISHED BY: Pon Xayaseng
SIGNATURE
11/2/05
DATE
~~3:00~~ P.M.
TIME 15:11

RECEIVED BY LABORATORY:
SIGNATURE
11/2/05
DATE
1511
TIME

Analytical Sciences
P.O. Box 750336, Petaluma, CA 94975-0336
110 Liberty Street, Petaluma, CA 94952
(707) 769-3128
Fax (707) 769-8093

CHAIN OF CUSTODY

LAB PROJECT NUMBER: 5112107
WINZLER & KELLY PROJECT NAME: Wiggins
WINZLER & KELLY PROJECT NUMBER: 02598050001.52008

CLIENT INFORMATION

COMPANY NAME: WINZLER & KELLY CONSULTING ENGINEERS
ADDRESS: 495 TESCONI CIRCLE, SUITE 9
SANTA ROSA, CA 95401-4696
CONTACT: Sonya: Results; Pon: Questions
PHONE#: (707) 523-1010
FAX #: (707) 527-8679

TURNAROUND TIME (check one)

MOBILE LAB			
SAME DAY		24 HOURS	
48 HOURS		72 HOURS	
5 DAYS		NORMAL	X

GEOTRACKER EDF: X Y ___ N
GLOBAL ID: T0609700531

COOLER TEMPERATURE: Blue Ice °C

COC PAGE 2 OF 2

ANALYSIS

ITEM	CLIENT SAMPLE I.D.	DATE SAMPLED	TIME	MATRIX	# CONT.	PRESV. YES/NO	TPH/GAS/~~BTEX~~ EPA 8015M/~~8020~~	TPH DIESEL / MOTOR OIL EPA 8015M	VOLATILE HYDROCARBONS EPA 8260B (FULL LIST)	BTEX & OXYGENATES ~~+PB SCAVENGERS~~ EPA 8260B	OXYGENATED FUEL ADDITIVES EPA 8260M	CHLORINATED SOLVENTS EPA 8010 / EPA 8260B	SEMI-VOLATILE HYDROCARBONS EPA 8270	TRPH / TOG SM 5520F / EPA 418.1M	PESTICIDES / PCB'S EPA 8081 / 8141/ 8082	EPA 418.1M TOG	EPA 7197 Hex Chrome	EPA 300 Bromate	EPA 6010 V, Se, Mo, Bromide	COMMENTS	LAB SAMPLE #
1	MW-10	11/21/05	13:56	W	8	Y/N	X	X		X						X	X	X	X	* Add Acetone	5112107-12
2																				to EPA 8260B	
3																					
4																				* Set Hex chrome	
5																				limit @ <5ug/l	
6																				and Bromide	
7																				@ <10ug/L	
8																					
9																					
10																					
11																					

SIGNATURES

SAMPLED BY: Pon Xayasaeng & Trevor White

RELINQUISHED BY: P Xayasaeng (SIGNATURE) — 11/21/05 (DATE) — ~~17:00~~ 15:11 P.X. (TIME)

RECEIVED BY LABORATORY: E Ricco (SIGNATURE) — 11/21/05 (DATE) — 1511 (TIME)

Appendix C
GeoTracker Upload Verification

Electronic Submittal Information

Main Menu | View/Add Facilities | Upload EDD | Check EDD

UPLOADING A GEO_REPORT FILE

YOUR DOCUMENT UPLOAD WAS SUCCESSFUL!

Facility Name:	John's Auto Repair (former)
Global ID:	T0609700531
Title:	Report of System Installation and Start-up, 10/10/05
Document Type:	Reports - Remedial Action Rpt.
Submittal Type:	GEO_REPORT
Submittal Date/Time:	11/14/2005 11:23:05 AM
Confirmation Number:	9847395181

Click here to view the document.

Back to Main Menu

Logged in as WINZLER (AUTH_RP) CONTACT SITE ADMINISTRATOR.

Electronic Submittal Information

Main Menu | View/Add Facilities | Upload EDD | Check EDD

UPLOADING A GEO_REPORT FILE

YOUR DOCUMENT UPLOAD WAS SUCCESSFUL!

Facility Name:	John's Auto Repair (former)
Global ID:	T0609700531
Title:	Quarterly Gorundwater Monitoring Report, 3rd Quarter 2005
Document Type:	Monitoring Report - Quarterly
Submittal Type:	GEO_REPORT
Submittal Date/Time:	12/7/2005 1:28:11 PM
Confirmation Number:	2286603629

Click here to view the document.

Back to Main Menu

Logged in as WINZLER (AUTH_RP) CONTACT SITE ADMINISTRATOR.

Electronic Submittal Information

Main Menu | View/Add Facilities | Upload EDD | Check EDD

UPLOADING A GEO_WELL FILE

Processing is complete. No errors were found!
Your file has been successfully submitted!

Submittal Title:	**4th Quarter 2005, Well Measurement File, Wiggins**
Submittal Date/Time:	**12/7/2005 1:34:41 PM**
Confirmation Number:	**9313734292**

Back to Main Menu

Logged in as WINZLER (AUTH_RP)

CONTACT SITE ADMINISTRATOR.

Appendix D
Operation and Maintenance Data

Operation and Maintenance Data

Wiggins Property

3454 Santa Rosa Avenue, Santa Rosa, CA

Date	System Total Run Time (hours)	Ozone Readings				Air Readings		
		Run Time Per Sparge Point (hours)	Injection Rate [a] (lbs O3/day)	Injection Pressure (psi)	Flow Rate (SCFM)	Run Time Per Sparge Point (hours)	Injection Pressure (psi)	Flow Rate (SCFM)
06/02/05	**System Installation and Test Run. Ozone supply lines were pressurized using compressed air to check for leaks. Any leaks were repaired. Initial system readings was recorded.**							
	1.4	1.4	1.7	19.0	0.25	2.9	30	1.0
06/07/05	**System Start-up with regulator from the SCDHS present. Ozone injection rate initially set at 0.5 lbs O3/day.**							
	NR	NR	0.5	18.0	0.25	NR	33	1.0
06/08/05	**Ozone injection rate increased to 0.8 pounds per day because no leaks were detected and the system had been operating as**							
	118.6	NR	0.8	18.5	0.26	7.4	30	1.0
06/09/05	141.8	NR	0.8	19.0	0.26	8.8	32	1.0
6/14/2005	**Performed 1st weekly groundwater sampling event for monitoring wells MW-5, MW-8 through MW-10.**							
	263.3	33.3	NR	18.5	0.27	NR	31	1.0
06/23/05	**Performed 2nd weekly groundwater sampling event for monitoring wells MW-5, MW-8 through MW-10.**							
06/30/05	**Performed 3rd weekly groundwater sampling event for monitoring wells MW-5, MW-8 through MW-10.**							
07/08/05	**System off upon arrival. Ozone high pressure alarm triggered at 3:32 pm on 7/6/05. Cleared alarm, decreased ozone pressure, and turned system on. Performed 4th weekly groundwater sampling event for monitoring wells MW-5, MW-8 through MW-10.**							
	784.5	98.3	0.8	17.5	0.25	NR	30	1.0
07/27/05	1,242.1	160.2	0.8	16.5	0.22	80.3	31	1.0
08/09/05	**Performed 3rd quarter 2005 QM event. Increased ozone injection rate to 1.1 lbs O3/day to optimized oxidation of petroleum related contaminants in groundwater.**							
	1,555.7	198.9	1.1	20.0	0.27	99.7	32	1.0
08/23/05	1,890.2	240.4	1.2	18.0	0.23	120.3	34	1.0
09/07/05	2,250.4	284.7	1.2	18.5	0.25	142.6	32	1.0
09/21/05	2,587.4	326.3	1.1	16.5	0.22	163.3	30	1.0
10/06/05	2,947.2	370.8	1.2	16.5	0.24	185.6	32	1.0
10/20/05	3,282.0	412.1	1.1	17.0	0.25	206.3	30	1.0
11/04/05	**Increased ozone injection rate to 1.4 lbs O3 per day.**							
	3,644.3	456.8	1.4	17.5	0.25	228.6	34	1.0
11/15/05	3,905.4	489.1	1.4	16.0	0.27	244.8	34	1.0
11/21/05	**Performed Annual/4th quarter 2005 QM event.**							
12/15/05	**Turned SP-2 off and turned SP-7 on to prevent oxidation of bromide in MW-5.**							
	4,619.0	586.2	1.4	16.5	0.25	290.0	34	1.0

Note:

a = Calculated using the *Ozone Generation Curve* provided by Applied Process Technology

lbs O3/day = Pounds ozone per day

psi = Pounds per square inch

SCFM = Standard cubic feet per minute

SCDHS = Sonoma County Department of Health Services

NR = Not recorded

QM= Quarterly groundwater monitoring and sampling event